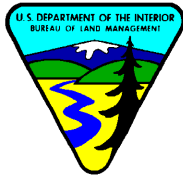




U.S. Department of the Interior
Bureau of Land Management
Rock Springs District, Pinedale and Green River Resource Areas

April 1998



RECORD OF DECISION
for
JONAH FIELD II
Natural Gas Development Project
Environmental Impact Statement

Sublette County, Wyoming

The Bureau of Land Management is responsible for the balanced management of the public lands and resources and their various values so that they are considered in a combination that will best serve the needs of the American people. Management is based upon the principles of multiple use and sustained yield; a combination of uses that take into account the long-term needs of future generations for renewable and nonrenewable resources. These resources include recreation, range, timber, minerals, watershed, fish and wildlife, wilderness, and natural, scenic, scientific, and cultural values.

STATE OFFICE LETTERHEAD

1793 (420)
Jonah II
ROD

April _____, 1998

Dear Reader:

This Record of Decision (ROD) for the *Jonah II Natural Gas Development Project* is provided for your information and use. The *Jonah II Natural Gas Development Project*, hereafter referred to as the *Jonah II Project*, is located in south central Sublette County, Wyoming. The ROD defines the decision and explains the rationale (including key management considerations) for the Jonah II Project. The BLM decision is subject to appeal as explained in the decision.

This ROD is the culmination of detailed analyses on the environmental effects of implementing the Jonah II Operators proposed developments or alternatives. On July 25, 1997 the Bureau of Land Management (BLM) released the Draft Environmental Impact Statement (DEIS) and on February 27, 1998 the Final EIS (FEIS) for the Jonah II Project.

The Jonah II EIS was prepared pursuant to the National Environmental Policy Act and other regulations and statutes to fully disclose the potential environmental impacts which could result from implementation of the Jonah II Project and to solicit public comments and concerns. The EIS process is designed to inform the public of, and provide opportunity to comment on, an action proposed for implementation on public lands, including reasonable alternatives, and to disclose through detailed analysis potential impacts associated with implementing the proposal or alternatives, including reasonable opportunities to mitigate potential impacts.

A copy of the ROD has been sent to affected government agencies and to those persons who responded to scoping, commented on the EIS, or otherwise indicated to BLM that they wished to receive a copy of the EIS/ROD. Copies of the ROD are available to the public at the following locations:

Bureau Of Land Management
Wyoming State Office
5353 Yellowstone Road
Cheyenne, Wyoming 82001

Bureau of Land Management
Rock Springs District Office
280 Highway 191 North
Rock Springs, Wyoming 82901

Bureau of Land Management
Pinedale Resource Area
431 East Mill Street
Pinedale, Wyoming 82941

The BLM thanks all the individuals and organizations who provided suggestions and comments on the Draft and Final EIS. Your help has been invaluable in preparing the EIS and the enclosed ROD.

Sincerely,

Alan Pierson
Bureau of Land Management
Wyoming State Director

Enclosure

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APPENDICES

Appendix A Jonah II Transportation Plan

Appendix B Reclamation Plan

Appendix C Environmental Standards, Procedures, and Requirements for
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Appendix D Wildlife Monitoring/Protection Plan

Appendix E Summary of Public Comments Received on the Expanded Jonah II Project Area
Natural Gas Development Project Final EIS and BLM Responses

Record of Decision - Jonah Field II Natural Gas Development Project

ABBREVIATIONS AND ACRONYMS

ANC	Acid neutralization capacity
AO	Authorized Officer
APD	Application for Permit to Drill
AQRVs	Air Quality Related Values
BACT	Best Available Control Technology
bbl	barrel
BMPs	Best Management Practices
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act (1980)
CFR	Code of Federal Regulations
COAs	Conditions of Approval
DEIS	Draft Environmental Impact Statement
EAs	Environmental Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency, Region VIII
FEIS	Final Environmental Impact Statement
FLPMA	Federal Land Policy and Management Act
g/hp-hr	grams per horsepower hour
gal	gallon
HAPs	Hazardous Air Pollutants
hp	horse power
IBLA	Interior Board of Land Appeals
kg/ha-yr	kilogram per hectare per year
LOP	Life of project
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NO _x	oxides of nitrogen
NRHP	National Register of Historic Places
NSO	No Surface Occupancy
PRA	Pinedale Resource Area
PSD	Prevention of Significant Deterioration
RFD	Reasonable Foreseeable Development
RMP	Resource Management Plan
RMP EIS	Resource Management Plan Environmental Impact Statement
ROD	Record of Decision
ROWs	Rights-of-way
SARA	Superfund Amendments and Reauthorization Act (1986)
SIP	State Implementation Plan
SNs	Sundry Notices
SO ₂	Sulfur Dioxide
SPCCP	Spill Prevention, Control, and Countermeasure Plan
SWPPP	Stormwater Pollution Prevention Plan
SWYTAF	Southwest Wyoming Technical Air Forum
T&E	Threatened and Endangered
TUPs	Temporary Use Permits
eg/l	microequivalents per liter
USFWS	U.S. Fish and Wildlife Service
VOCs	Volatile organic compounds

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WAAQS	Wyoming Ambient Air Quality Standards
WDEQ	Wyoming Department of Environmental Quality
WGFD	Wyoming Game and Fish Department
WOGCC	Wyoming Oil and Gas Conservation Commission

Record of Decision - Jonah Field II Natural Gas Development Project

**RECORD OF DECISION
For
Expanded Jonah II Area
Natural Gas Development Project
Environmental Impact Statement**

This document records the decision made by the Bureau of Land Management (BLM) for managing the public land surface and federal mineral estate in the *Jonah II Area Natural Gas Development Project* (hereafter referred to as the *Jonah II Project*). The Jonah II Project area comprises approximately 59,600 acres of Federal, State, and private land ownership. Of this total, approximately 56,400 acres are BLM administered or 95 percent; 2,560 acres are State of Wyoming or 4 percent; and 640 acres are private surface/federal minerals, or 1 percent. See Map 1.1 for the location of the Jonah II Project.

The Jonah II Project development is the proposal of McMurry Oil Co., Snyder Oil Corporation, Amoco Production Company (Amoco), Western Gas Resources, and other oil companies (hereafter referred to as the "Operators").

DECISION

The Bureau of Land Management (BLM) approves the Jonah II Operators *Proposed Action* for the development and production of natural gas on public lands. Approval of the Proposed Action provides for managing the Jonah II area, in accordance with the Federal Land Policy and Management Act (FLPMA) (Sec. 202(e)), in a manner that allows for natural gas development while continuing to provide for the existing principal and major uses recognized by the land use plan for this area (i.e., domestic livestock grazing, fish and wildlife development and utilization, mineral exploration and production, rights-of-way, and outdoor recreation). The Proposed Action balances the multiple uses and sustains the long-term yield of resources, while promoting stability of local and regional economies, environmental integrity, and conservation of resources for future generations.

The decision approving the Proposed Action recognizes the area of the Jonah II Project as

one which has been under development for natural gas since 1993, has significant reserves and will continue to be developed for its natural gas resource. The decision recognizes that there are other important natural resources and values within the area which require consideration and protection from unnecessary or undue degradation. The decision incorporates restrictions and mitigative measures in consideration of Federal, State, and local agency, public, and affected Indian tribes concerns raised during scoping and in comments received on the draft EIS. Common concerns raised were potential cumulative impacts as they pertained to changes in land use, air quality, wildlife and wildlife habitat, and socio/economic impacts. The BLM decision provides maximum consideration for the protection of the identified concerns through planning associated with and inherent in each authorization for the implementation, operation, and abandonment of activities to develop the mineral resource. In addition, the decision ensures the protection of livestock grazing, travel, watersheds, cultural and paleontological resources, and other land and resource uses in the Jonah II Project area.

Record of Decision - Jonah Field II Natural Gas Development Project

INSERT Map 1

Record of Decision - Jonah Field II Natural Gas Development Project

Approval of the Proposed Action and the individual project components associated with the Proposed Action are subject to the administrative requirements and conditions of approval listed below as well as the *applicant-committed practices and the environmental standards, procedures, and requirements specified in Appendices A (Transportation Plan), B (Reclamation Plan), C (Environmental Standards, Procedures, and Requirements for Implementation of the Expanded Jonah II Field), and D (Wildlife Monitoring/Protection Plan)* of this Record of Decision (ROD). This ROD authorizes the BLM, Pinedale Resource Area Manager to process Applications for Permit to Drill (APDs), Sundry Notices (SNs), Rights-of-Way (ROWs), and Temporary Use Permits (TUPs) on public lands administered by the BLM for the Jonah II Project Operators and for companies contracted by the Jonah II Operators. Approval of individual applications authorize the implementation of the various components of the Jonah II Project (e.g., access road and well pad construction, gas gathering pipeline and production facilities installation, etc.).

Based on current understanding of the natural gas reservoir characteristics (i.e., geology, flow data from existing producers, expected recovery factors, and economics), it is reasonably expected by the Jonah II Operators that the area will be developed at a spacing of eight wells per section (80-acre well spacing). If the spacing needs to be less than 80 acres, then additional environmental analysis will be required.

Approved Project Components

This ROD provides the BLM Pinedale Resource Area Manager approval to permit the following project components on BLM-administered public lands (95 percent of the land ownership) within the Jonah II Project area (see Map 1.1):

- 450 natural gas well locations,
- 4 compressor units with a combined total of 12,000 horsepower,
- 180 miles of access road,
- 180 miles of gathering pipeline,
- 22 miles of sales pipeline,
- 10 water wells.

Development beyond the specified levels will require the preparation of a new environmental analysis.

Wells

The construction of up to 450 additional natural gas well locations, in addition to proposals approved in the Jonah EA (BLM 1994), on BLM-administered lands as proposed for the Jonah II Project area. The Jonah II Operators will drill wells on not less than 80-acre spacing over the next ten to fifteen years. In addition, ten or more water wells may be developed and operated during the life of this project. More than 10 water wells may be drilled on approved gas well locations but the total draw down (volume analyzed) will remain the same.

Compressors

The construction and installation of up to 4 compressor locations with a combined total of 12,000 hp on BLM-administered lands.

Other Facilities

Construction and installation of tanks, separators, dehydration units, and other equipment at individual well sites on BLM-

Record of Decision - Jonah Field II Natural Gas Development Project

administered lands needed to produce the wells for the life of the well.

Access Roads and Gathering Pipelines

The construction and/or upgrade of up to 180 miles of access road and 3- to 4-inch diameter natural gas gathering pipeline on BLM-administered lands. Gathering pipelines will be routed in a manner that best utilizes the existing topography in order to minimize surface disturbance including surface and buried pipelines, and pipeline placement parallel to existing roads. Twenty-two miles of sales pipeline outside of the Jonah II Project Area may be authorized as well. Improvement of seventeen miles of the Burma and Luman Roads is also authorized.

Administrative Requirements and Conditions of Approval

Implementation of the Jonah II Project is subject to the following requirements and conditions.

Authorizing Actions

The Jonah II Operators are responsible for obtaining all necessary federal, state, and county permits, and for developing the Jonah II natural gas infill drilling project in an environmentally responsible manner (See Table 1-1, Federal, State, and Local Permits, Approvals and Authorizing Actions Necessary to Implement the Expanded Jonah II Area Natural Gas Development Project in the DEIS).

Site Specific Environmental Analysis

Before authorization of individual actions on public lands (e.g., APD, SN, ROW, TUP), the final location for each well site, access road, gathering pipeline segment, or other facility will be determined following a site specific environmental document in accordance with the BLM National Environmental Policy Act Handbook (H-1790-1).

Plans/Reports

Authorization of multiple or individual actions (e.g., road construction, well pad construction and drilling, pipeline construction, production

facility installation) will require the responsible Operator(s) to submit various plans/reports, to the BLM Pinedale Resource Area Manager, covering planned multiple field operations or covering an individual application (e.g., APD, SN, ROW, TUP). These plans/reports will serve as the Operator's field operations guide. The plans/reports are as follows:

Transportation Plan and Updates (Appendix A); Cultural Clearance Reports (Class I and III); and an annual report containing an inventory of project features, proposed development for the next 12 months, and wildlife inventory, monitoring, and protection data collected during the year.

R o a d D e v e l o p m e n t Plan-Transportation Plan

A transportation plan has been prepared for the Jonah II Project Area (Appendix A). The Plan describes the procedures by which transportation planning, road design, construction, and road maintenance will be conducted by the Jonah II Operators to meet their operational needs and BLM requirements for road standards, safety, and resource protection. Guidance on the content and processes for Transportation Planning are being developed in accordance with the Green River Basin Advisory Committee recommendation.

Transportation planning for the Jonah II Project area will incorporate the annual review of well development plans between the operator and BLM. The review will entail assessment of existing roads and how the planned incremental well development roads tie in with the existing network to ensure safety and protection of natural resource values. As individual APDs, SNs, ROWs, and/or TUPs are prepared for submission to BLM following on-site inspection, site-specific considerations relative to safety and environmental protection will be given to access road location, design, construction, and maintenance in accordance with the guidance of the Transportation Plan for the Jonah II Area.

Air Quality

All air pollutant emissions from future federally

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authorized development, including the Jonah II, Fontenelle, Moxa Arch, Stagecoach Draw, and Jonah developments, shall comply with all applicable local, state, and Federal air quality laws, statutes, regulations, and implementation plans. The air quality analysis produced for the Jonah II Field Development EIS updates the RMP air quality evaluation on a cumulative basis for the region.

Emissions Control - Air pollutant emissions from operation of the Jonah II development project were based upon the analysis assumptions contained in the *Jonah II EIS - Revised Air Quality Technical Support Document (Cumulative Impact Analysis of Southwestern Wyoming Natural Gas Development Projects on Air Quality, (February, 1998))*, in addition to the Wyoming Department of Environmental Quality's *Oil and Gas Industry Section 21 Permitting Guidance Document (June, 1997)*. If activity and corresponding emission assumptions and impacts exceed those used for the analysis, the BLM, in cooperation and consultation with Wyoming Department of Environmental Quality (WDEQ), Environmental Protection Agency Region VIII (EPA), USDA-Forest Service and other affected agencies, will undertake additional cumulative air quality environmental review as required by Council on Environmental Quality (CEQ) regulation 40 CFR 1502.9(c)(1)(ii).

Each compressor engine undergoes Best Available Control Technology (BACT) review by WDEQ. The appropriate controls will be determined as part of the air quality preconstruction evaluation and permitting process required by the WDEQ.

Visibility Impact Mitigation - The Moxa Arch-Fontenelle EISs Air Quality Technical Support Document and USDA-Forest Service information provided in response to the Moxa Arch Final Environmental Impact Statement (FEIS) identified a level of visibility cumulative impact concern for oxides of nitrogen (NO_x) emissions with an increase of 977 tons per year above levels existing at the time of the analysis (January 1, 1996). Additional NO_x emissions at or above 977 tons per year could result in impacts exceeding USDA-Forest Service Limits of Acceptable Change for visibility

within the Bridger Wilderness area of the Bridger-Teton National Forest.

Operators will cooperate with BLM and WDEQ in determining when or if NO_x emission levels, from all activities within the BLM Rock Springs District (including the Jonah II, Moxa Arch, Fontenelle, Stagecoach Draw, and Jonah development areas), reach 977 tons per year above January 1, 1996 levels. (The 977 tons per year was generated by the USDA Forest Service at the request of the BLM Rock Springs Office to determine how much NO_x could be emitted from Moxa Arch and adjacent projects without exceeding the Forest Service 0.5 deciview limit of acceptable change for one day at the Bridger Wilderness.) If this level of emissions is reached, BLM will notify EPA, the USDA Forest Service, and the WDEQ that further emissions may have an adverse impact on air quality related values. Further, BLM, consistent with its letter of Agreement for Tracking Nitrogen Oxide Emissions with WDEQ dated June 20, 1997, and in cooperation and consultation with WDEQ, EPA, USDA-Forest Service, and other affected agencies, will continue to track air quality in the affected region, and will verify the level of emissions, determine visibility impacts through additional modeling, and determine whether unanticipated visibility impacts are predicted or occurring in order to produce additional documentation that may be required under the National Environmental Policy Act (NEPA). BLM will use this information in making recommendations to EPA regarding air quality and to WDEQ regarding permitting for existing leases, and in making decisions regarding future leases on BLM-administered lands.

If visibility impacts are determined to be greater than predicted at 977 tons of NO_x and/or if increased contributions of other pollutants (such as volatile organic compounds (VOCs)) result in higher emission levels than stated in the BLM's cumulative air quality impacts analysis, then BLM will conduct additional NEPA analysis and/or additional monitoring. The additional information will be used to make recommendations to WDEQ regarding permitting of further development under existing leases, as well as BLM decisions regarding future leases. To the extent authorized by the lease terms and federal or

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state law, operators may be required to cooperate in the implementation of a supplemental coordinated air quality monitoring program or emissions control program.

The following identified mitigating measures are being accepted by BLM in this decision:

- Roads and well pads that prove to be susceptible to wind erosion will be appropriately surfaced or have dust inhibitors applied to reduce fugitive dust.
- Operators will establish and enforce speed limits to reduce fugitive dust concerns as well as for human health and safety reasons.
- Jonah II Project Area emissions will be tracked as a subset of the current tracking agreement described above.

In addition, BLM offers to WDEQ the following, but not all inclusive, list of possible mitigation measures for their consideration in permitting facilities having NO_x emissions:

Total NO_x emissions should be kept below 158.6 tons per year from the Jonah II in order to achieve the USDA Forest Service's 0.5 deciview visibility Limit of Acceptable Change until new information becomes available, as discussed below, that indicates that this number should be changed. The analysis shows that the 0.5 deciview limit established by the USDA Forest Service would not be exceeded on more than one day at this level of emissions. When coupled with the previously identified 977 tons per year level of concern these two thresholds should prevent the USDA Forest Service 0.5 deciview Limit of Acceptable Change from being exceeded.

The control of NO_x emissions at or below 158.6 tons per year limit could be achieved in a number of ways including but not limited to:

- Establishing BACT as 1.0 g/hp-hr, or lower, for compressor engines.
- Denying additional permits once the threshold is reached.
- Using new technologies as they become available.

Operators can reduce the amount of emissions associated with compression by building larger diameter pipelines and adopting new emissions control technology as it becomes available.

The cumulative 977 tons per year above the January, 1976 levels and/or the Jonah II 158.6 tons per year NO_x emission levels of concern could change. Supporting technical analysis, concurred with by the BLM, WDEQ, EPA, USDA-Forest Service, and other affected agencies, could show that the level of concern should be lowered, raised, or eliminated. The supporting technical analysis may come from 1) the State of Wyoming Implementation Plan (SIP) approved by EPA; 2) the Southwest Wyoming Technical Air Forum (SWYTAF) following completion of their mandate to determine and concur in model(s) and model input assumptions that will be used to analyze air quality impacts; or 3) other information source.

Atmospheric Deposition Impact Mitigation - No additional air quality mitigation has been identified to further reduce potential atmospheric deposition in high mountain lakes with low acid neutralizing capacity (ANC).

Air Quality Mitigation Program - No additional air quality mitigation has been identified to further reduce potential air quality impacts. The WDEQ currently requires BACT review for all air pollutant emission permits. WDEQ requires that a site-specific BACT analysis be conducted by the proponent as part of its pre-construction permit application. This long standing requirement is a technology forcing regulation which will help mitigate potential cumulative NO_x emissions impacts.

Air Quality Monitoring/Tracking Program - At this time, no additional air quality monitoring measures have been identified as being needed to measure potential air quality impacts. As deemed necessary under Section 6 of the oil and gas lease terms, BLM may require the lessee, within the lease rights granted, to take measures deemed necessary for the conduct of operations in a manner that minimizes adverse impacts to the air resource, as well as other resources. The BLM will continue to cooperate with existing visibility and atmospheric deposition impact monitoring programs. The

Record of Decision - Jonah Field II Natural Gas Development Project

need for and the design of additional monitoring will include the involvement of SWYTAF. Based upon the SWYTAF's recommendations, operators may be required to cooperate in the implementation of a coordinated air quality monitoring program.

It is BLM's understanding that the USDA Forest Service will be installing and operating additional air quality monitoring sites between Pinedale and South Pass in the near future (personal communication with Dennis Hemmer, USFS on March 20, 1998).

The BLM, consistent with its Letter of Agreement for Tracking NO_x Emissions with WDEQ, will continue to track total NO_x emissions within the BLM Rock Springs District. Tracking total NO_x emissions will require close coordination between the Federal land management and State environmental regulatory agencies regarding receipt of applications for NO_x emitting sources and maintenance of a NO_x emissions inventory. The procedure that will be followed by WDEQ and BLM in tracking NO_x emissions is defined in a written agreement, dated June 20, 1997, between the Director of the Wyoming DEQ and the BLM Rock Springs District Manager.

Tracking will include documentation of changes (increase and decreases) in NO_x emissions from *existing sources* (e.g., plugged/abandoned wells, retrofitting compressors, wells, power plants, etc., with BACT) and NO_x emissions from *new sources* due to permitting of activities. Where applicable, emission changes from existing sources and emissions from new sources shall be based on the source's maximum potential to emit. Tracking will include documentation of the type of emitting facility, owner of the facility, location of the source, NO_x emissions and, if available, other pollutant(s) emitted in tons/year, and other pertinent information deemed necessary by the WDEQ and BLM to ascertain change in total NO_x emissions. A record of active drill rigs, their location and drilling duration, will also be maintained.

iPaleontology

Contractors and their construction workers will

be instructed about the potential of encountering fossils and the steps to take if fossils are discovered during project related activities. The illegality of removing vertebrate fossil materials from federal lands without an appropriate permit will be explained.

iSoils

Site-specific, predisturbance landscape characteristics, including soils, plant species composition, and plant cover data; and proposed reclamation seed mixes and application rates will be required by the Authorized Officer (AO) for applications in soil types that are difficult to reclaim. In addition, special efforts to increase the likelihood of successful revegetation may be required and could include:

- the collection and analysis of soil samples from disturbed areas to determine appropriate reclamation seed mixtures and the need for soil amendments.
- the addition of fertilizers or other soil additives to improve soil texture and productivity;
- topsoil stockpile seeding, mulching, or height reduction (to <3 feet) where topsoil is stockpiled for more than 3 months.

Reviews of erosion control structures, culverts, reclamation, etc., will be made by the Operator's personnel and BLM to assure compliance with requirements and goals.

As much as is reasonable, disturbances on the Monte-Leckman complex (Map Unit #106), Huguston-Horsley-Terada complex (Map Unit #116), stabilized dune, and alkaline soils will be avoided. Where this is not possible, more detailed erosion control and reclamation measures will be required in the reclamation plan for the APD or ROW.

Project related travel is restricted to constructed, surfaced roads when soils are saturated and rutting would occur on unsurfaced roads.

No well location shall be constructed within 300 feet of the edge of Sand Draw, Granite Wash, or Alkali Draw or within tall sage brush

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areas associated with them. The goals are to avoid disturbance of sandy soils and to protect important sage grouse habitat. Roads and pipelines may cross the drainages at right angles as deemed necessary by the AO. Engineering design will address the specifics of these crossings on a site specific basis.

Release of fracturing fluids and condensates into flare pits will not be permitted. BLM and the Operator's personnel will ensure compliance through a routine inspection program.

Water Resources

Increase sedimentation impacts to surface waters will be avoided or minimized through construction and erosion control practices approved with each authorization and prompt reclamation of disturbances.

All reserve pits will be lined unless an exception is granted by the AO. The Operators are encouraged to haul drilling fluids from one pit to the other, as much as is practical, in the place of using fresh ground water. BLM may, on a case-by-case basis, require that fracturing flow back fluid be contained in tanks and disposed of in an approved off-site location.

Fracturing and condensate fluids are not to be released into the flare pit or the surrounding area; they are to be confined in the reserve pit or tanks. It is envisioned, and is currently being done, that fracturing fluids will be flowed back into flat tanks large enough to contain the blowback. The condensate on top of the tanks would be shipped to production tanks and the remaining fracturing fluids put into the reserve pit (from the bottom of the tank) until the fluid volume of the flowback is reduced enough to permit flaring.

No well location shall be constructed within 300 feet of the edge of Sand Draw, Granite Wash, or Alkali Draw, or within tall sage brush areas associated with them, to avoid disturbance of erosive sandy soils and to protect important sage grouse habitat. Roads and pipelines may cross at right angles. Engineering design will address the specifics of these crossings on a site specific basis.

Noise and Odor

All engines and compressor exhaust stacks are to be properly muffled according to manufacturer's specifications to reduce noise.

Housing for compressors and silencers on exhaust stacks may be required in the future if noise from compressor stations becomes a problem (e.g., sage grouse strutting activity is affected, noise is heard at residences, etc.).

Vegetation

Well field traffic shall be confined, unless specifically authorized otherwise, to the running surface of roads and well pads as approved in APDs and ROWs. Well field traffic is prohibited on two-tracks when soils are saturated and rutting would occur.

Operators will assist BLM in the monitoring of reclaimed areas for successful revegetation.

Wildlife

BLM will work with the Operators, ranchers, Wyoming Game and Fish Department (WGFD), and other interested parties to determine the need for and location of additional water sources to enhance seasonal use of the area by pronghorn and sage grouse.

The inventory and monitoring of wildlife and wildlife use will be conducted as specified in the Wildlife Monitoring/Protection Plan (see Appendix D). Appropriate management actions will be taken to further protect wildlife and their habitats as deemed necessary.

Raptor Nest Protection

Nest Protection - A buffer zone will be maintained around *active* raptor nests to ensure that the future function of raptor nests and raptor recruitment of young are not adversely compromised. (An active raptor nest is defined as a nest that has been occupied at least once within the past 3 years.) Permanent structures such as well pads, roads, buildings, storage tanks, or overhead powerlines will not be allowed within 825 feet of active raptor nests, with the exception of active bald eagle nests for which the distance will be 2,000 feet. The

Record of Decision - Jonah Field II Natural Gas Development Project

buffer distance may vary depending upon the species involved, prey availability, natural topographic barriers, and line-of-sight distances. Linear disturbances, such as pipelines, seismic activity, etc., could be granted exceptions.

ïSage Grouse

Lek Protection - Surface disturbance within 0.25 miles of a sage grouse lek (strutting ground) will be avoided. Linear disturbances such as pipelines, seismic activity, etc., could be granted exceptions. Annual field evaluations for sage grouse leks will be conducted by a qualified biologist provided by the BLM or the Operator prior to the start of activities in potential sage grouse lek habitat between February 1 and May 15. These field evaluations will be conducted if project activities will occur in potential sage grouse lek habitat during the specified period. BLM wildlife biologists will ensure that such surveys are conducted using proper survey methods at the proper time of year.

Nesting Protection - Field evaluations for sage grouse nesting will be conducted by a qualified biologist provided by the BLM or the Operator prior to the start of activities in potential sage grouse nesting habitat between April 1 and July 1. These field evaluations will be conducted if project activities will occur in potential sage grouse nesting habitat during the specified period. If an occupied sage grouse nest will be adversely affected by surface disturbing activities, surface uses and activities will be delayed in the affected area until nesting is completed. BLM wildlife biologists will ensure that such surveys are conducted using proper survey methods at the proper time of year.

Sage Grouse Winter Use Areas - To protect important sage grouse wintering areas, tall sagebrush areas primarily associated with Sand Draw, Granite Wash, and Alkali Draw, surface disturbance will be avoided. Pipelines or roads will cross drainages at right angles, to minimize disturbance.

ïSpecial Status Species

The U.S. Fish and Wildlife Service (USFWS)

concurs in the assessment that, provided the measures are implemented, where appropriate, and the ferret surveys are conducted pursuant to the USFWS 1989 Black-Footed Ferret Survey Guidelines, the project, as described, is not likely to adversely affect the black-footed ferret, peregrine falcon, whooping crane, or bald eagle. BLM will implement the following measures:

Black-Footed Ferret - If a proposed construction site would affect prairie dog colonies that might be suitable as habitat for black-footed ferrets, BLM will give the operator the option of relocating the project components to avoid direct impacts to prairie dog burrows. If this is not possible, BLM will require that a survey be conducted to locate black-footed ferrets in accordance with USFWS Survey Guidelines (USFWS 1989). If black-footed ferrets or their sign are discovered during surveys, all subsequent activities in the project area will be coordinated with USFWS.

Bald Eagles - To ensure protection of this threatened species, no permanent structures will be located within 2,000 feet of an active bald eagle nest site. The buffer distance may vary depending upon the species involved, prey availability, natural topographic barriers, and line-of-sight distances. BLM will require completion of a field survey in these areas prior to surface disturbing activities during the nesting season. No surface disturbing activity will be permitted within one mile of an occupied bald eagle nest.

Endangered Fish - The USFWS Colorado River Endangered Fish Recovery Program, where depletion of water in excess of 100 acre-feet from the Colorado River system occurs (USFWS July 5, 1994), requires a depletion fee be paid to help support the Recovery Program. The Jonah II Project Area would not result in any annual depletion of water from the Colorado River system, thus no payment is required.

Mountain Plover - Suitable mountain plover habitat within 0.25 miles of proposed well locations and within 300 feet of proposed roads will be surveyed prior to disturbance to detect the presence of plovers if the disturbance will

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occur between March 15 and August 15. If plovers are discovered, observations will continue to determine if nests are present. If no nests are present, no additional surveys will be conducted. If nests are discovered, surveys will be conducted no more than 14 days prior to the date that ground disturbing activities are initiated. Two surveys, 14 days apart, will be required if the disturbance would occur between April 15 and July 15.

Western Burrowing Owls - Prairie dog colonies within 0.5 miles of existing and proposed disturbance areas will be searched annually for western burrowing owls during June and July to determine the extent of owl nesting. The number of active nest burrows will be identified each year and efforts will be made to determine reproductive success for as long there is a concern with the impacts of development on the owls. The 825-foot buffer described for raptors will also be implemented for western burrowing owls.

Cedar Rim Thistle - All potential habitat for Cedar Rim thistle will be surveyed prior to disturbance. The plant and its habitat will be avoided if practical.

If the scope of the project is changed (i.e., the project is modified in a manner that may result in an effect to listed, candidate, or migratory bird species or their habitat, including black-footed ferret habitat, raptor nests, and mountain plover nesting habitat), BLM will contact the USFWS and the WGFD to cooperatively work with the project proponents to identify measures to protect these species, identify survey guidelines, develop appropriate management plans, and minimize potential impacts.

Cultural Resources

The primary tool for mitigation of impacts to cultural resources will be avoidance. All recognized eligible sites, areas of Native American concern, and other recognized sensitive areas, specifically Sand Draw and the NE 1/4 of Section 13, T. 29 N., R. 108 W. will be avoided as much as practical while permitting oil and gas development. Impacts that cannot be eliminated by avoidance will be mitigated on a case-by-case basis through

pre-established methods. Mitigation may include data recovery, excavation, and/or Native American consultation/coordination for development in sensitive cultural resource areas, and costs for these effort will be born by the Operators. Excavation will be the primary form of mitigation to prehistoric sites whose importance is derived because of the data they contain. Unexpected discoveries will be handled on a case-by-case basis but salvage excavation of impacted materials will normally be required.

The BLM will consult with the Native Americans to identify areas of importance to them and then steps will be taken to avoid those areas as much as possible. Specifics of avoidance will be determined during and subsequent to consultation.

All development, except for road and pipeline crossings, within 300 feet of the edge of the drainage channels of Sand Draw, Granite Wash, and Alkali Draw is prohibited. Access to, occupancy, and use of areas with sensitive cultural resources and /or sensitive Native American concerns may be prohibited where adequate mitigation is not otherwise possible. Areas with sensitive cultural resources and/or sensitive to Native Americans will be managed with these values in mind.

The operators in cooperation with the BLM will conduct an educational program to inform employees and visitors about the regulations concerning cultural resource management and artifact collection. The BLM has placed informative signing on the access roads into the area.

Construction in archaeologically sensitive areas during frozen ground conditions will normally be prohibited, exceptions will be considered by the AO on a case-by-case basis and granted if appropriate.

Mitigation of effects to significant historic period cultural resources will be determined subsequent to consultation with all interested parties, recognizing the applicable significance criteria (36 CFR 60.4 [a] to [d]).

The Operators will be encouraged to enter into programmatic agreements, discovery plans,

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and /or individual project treatment plans. These plans could include geoarchaeological studies. In fact, a Draft Cultural Resource Management Plan is currently being prepared for the project.

BLM will increase law enforcement presence in the area to deter unauthorized collection of cultural materials.

ï Socioeconomics

BLM will work with and encourage the Operators to plan proposed development operations so that seasonal restrictions do not create a significant reduction in the level of development causing seasonal workforce layoffs (i.e., work continues at a level rate year round).

ï Land Use

Where proposed roads will follow existing roads, those portions of existing roads not included in the new road ROW and not needed by other users will be reclaimed and revegetated by the Operators, following Class III cultural resource surveys.

Adequate turnouts on new crowned-and-ditched roads will be built to provide access to existing two-tracks and other undeveloped roads.

ï Livestock Grazing

All pits containing fluids will be fenced to keep livestock and big game from drinking any contaminated water.

ï Hazardous Material

Operators will provide WDEQ-approved portable sanitation facilities at well locations until the wells are fitted for production and during workovers lasting more than 3 days.

ï Mitigation and Monitoring

The Jonah II Operators will implement the resource protection, mitigation, and monitoring measures found in the Proposed Action, Transportation Plan, Reclamation Plan, and Wildlife Protection/Monitoring Plan.

Monitoring inspections conducted by BLM and the Operators will be based upon the parameters identified in these documents. BLM and the Operator's personnel, Inspection and Enforcement personnel, and Environmental Compliance personnel, and/or periodic interdisciplinary teams will conduct monitoring inspections of construction and rehabilitation operations to ensure that the mitigation measures are effective and implemented.

Additional opportunities to mitigate residual impacts will be implemented where applicable. Opportunities include: road and trail reclamation/closure to restore wildlife habitat by ripping and seeding numerous two-tracks and unneeded primitive roads; reducing the extent of surface disturbance associated with well pads, access roads, and pipeline corridors but within safety standards; maximizing the success of reclamation and restoration of wildlife habitat by consulting with reclamation contractors and oil and gas operators for reclamation practices successfully applied in the Jonah II Project area and elsewhere.

ï Compliance Monitoring

Several comments on the DEIS question BLM's ability to adequately assure adherence to authorizations during construction and reclamation of well pads, roads, and pipelines. To help alleviate this concern, the Operators, collectively or individually, will be required to name a sole point of contact by June 17, 1998 for BLM to deal with in correcting all surface resource concerns. BLM will name a project manager as well by June 17, 1998. This person will be the sole point of contact for the Operator's designated person.

Appropriate remedial action will be taken by the Operators in the event unacceptable impacts are identified. The Operators will conduct monitoring of project sites in cooperation with the BLM. Plans submitted by the Operator or their contractor, and with each APD, ROW, or appropriate permit application, will include monitoring provisions for the following: road construction to approved standards, reclamation success, annual review of wildlife use and/or changes in use including listed or candidate species, or any threatened, endangered, or migratory bird species or their

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habitat in the area (including black-footed ferret habitat, raptor nests, and mountain plover nesting habitat), big game use, and sage grouse use. The reclamation monitoring program shall include written documentation for the effectiveness and success of reclamation mitigation. The Operators will monitor their reclamation to ensure that revegetation meets accepted standards set forth in the Reclamation Plan (Appendix B). Mitigation and monitoring measures may be modified by the AO as necessary to further minimize impacts. Final mitigation and monitoring requirements will be specified by the AO. BLM could require, as provided for in the lease terms, additional field studies or documentation of project sites to ensure that reclamation and other resource protection goals are met.

Authorized Officer

The BLM Pinedale Resource Area Manager or her designee is the Authorized Officer for project surface and subsurface activities on BLM-administered lands.

Possible Mitigation Measures Not Accepted for Implementation

This section identifies what possible mitigation measures identified in the EIS that were not accepted for implementation.

•Air Quality

These mitigating measures were not accepted because WDEQ is the agency responsible for managing air quality in Wyoming. Therefore, BLM cannot require the following mitigating measures.

The air quality impact assessment evaluated potential mitigation measures to further reduce NO_x emissions for natural gas-fired, internal combustion compressor engines. The evaluation was not intended to rank or identify a required technology for the proposed compressors; the appropriate level of control would be determined and required by the WDEQ during the preconstruction permit process (e.g., limiting horsepower or NO_x BACT emission levels). For example, Table 4.2c in the FEIS presented the NO_x emissions levels under alternative well numbers

compression horsepower, and NO_x BACT scenarios which could be used to reduce potential visibility impacts at the Prevention of Significant Deterioration (PSD) Class I Bridger Wilderness Area. In developing the emission inventory for the Jonah II Project Area assessment, it was assumed that compressor engines would have an average NO_x emission rate of approximately 2 g/hp-hr of operation. This reflects the use of current BACT determinations for similar emission sources. It should be noted that some Operators are currently using natural gas compressors with catalytic converters that have NO_x emissions rates significantly less than 2.0 g/hp-hr. Alternate control measures available to Operators to reduce NO_x emissions include the following.

- Reducing the need for LOP compression by installing larger pipelines.
- Nonselective Catalytic Reduction.
- Lean Combustion.
 - Selective Catalytic Reduction.
- Electric Compression (including solar power).
- Fuel Cell Technology.
- Centralized Well Gas Processing.
- Well Gas Flaring (VOC Control) of Condensate Tank Vapors
- Re-injection of Vented Well Gases.
- Natural Gas-Powered Drilling Rigs.
- Additional New Technologies.

In addition to these technology-based mitigation measures, there were natural resource management actions identified which could further mitigate potential air quality impacts. Other mitigation measures which might be considered to reduce air quality impacts are:

- Suspend Future Development Until Air Quality Issues Are Resolved.
- Withdraw or Prohibit Future Leasing.
- NO_x Emissions Cap and Trade.
- BACT on Existing VOC Sources.
- Phased (Staged) Development.
- Noise and Odors

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Remote monitoring of selected wells and piping condensates and produced water to central collection points in order to reduce the number of trips and associated noise was not selected. However, BLM is reserving the right to require these mitigating measures on a case-by-case basis.

Improved separator/dehydrator units and/or VOC capture systems at condensate tanks to minimize potential odors was not selected for implementation. This possible mitigating option is up to WDEQ to require or not require during the evaluation and permitting process.

• **Wildlife**

Netting of all reserve pits will not be required.

A 0.5 mile seasonal avoidance buffer from March 1 through May 30 to further protect sage grouse leks was not selected for implementation.

• **Hazardous Material**

The option of requiring all pipelines left in place upon abandonment to be filled with a clay or cement slurry during the abandonment process is not accepted.

Rationale for Administrative Requirements and Conditions of Approval

This section briefly explains the rationale for the additional administrative requirements and conditions of approval.

• Authorizing Actions

Before implementation may occur, all necessary federal, state, and county permits must be obtained.

• Site Specific Environmental Analysis

Because the FEIS does not address all resource concerns site-specifically, further environmental review is necessary before the final location, mitigation, and monitoring needs

for each well site, access road, gathering pipeline segment, or other facility can be determined.

• Plans/Reports

The specified plans and reports are requirements of state or federal regulation and policy to ensure orderly implementation of planned development.

• Transportation Plan

The Jonah II Operators are required to provide to the BLM annual projections specifying proposed well and facility site locations and associated traffic requirements so the BLM can prepare annual transportation plan updates. This will ensure road locations are orderly and planned. This will allow BLM to eliminate unnecessary environmental degradation and to comply with existing Federal, State, and County requirements and restrictions developed to protect road networks, the traveling public, adjacent landowners and their property, and the natural resources.

• Air Quality

As required under the FLPMA and the Clean Air Act (CAA), the BLM shall not conduct, support, approve, license, or permit any activity which does not comply with all applicable local, state, tribal and Federal air quality laws, statutes, regulations, and implementation plans. In addition, the USDA-Forest Service, as the Federal land manager for the affected Bridger and Fitzpatrick Wilderness areas in the Wind River Mountain Range, has responsibility under the CAA, the Forest Service Organic Act of 1897, the Wilderness Act of 1964, the Forest and Range Renewable Resource Planning Act of 1974, and the National Forest Management Act of 1976 to protect wilderness areas against impairment. The Wilderness Act (and implementing Wilderness Area Air Quality Related Values Action/Monitoring Plans) requires that designated Wilderness Areas be managed in order to leave them unimpaired, with inconsistent uses held to a minimum. BLM's consideration of the 158.6 tons of NO_x per year responds to the USDA-Forest Service concerns pertaining to the potential for

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significant impacts to air quality related values within the Bridger and Fitzpatrick Wilderness areas under the mandates of the Clean Air Act, and in response to the Wilderness Act to ensure the protection of wilderness resources under Federal administration.

The Clean Air Act, 42 U.S.C. 7401 et seq., provides the framework for the protection of air quality through state regulatory programs approved by the Environmental Protection Agency. The 1977 amendments to the CAA established provisions for PSD of air quality, including Class I areas. The State of Wyoming has the authority and responsibility to regulate air quality impacts within Wyoming, including Class I areas. The primary goals for visibility protection which the state must follow are found in Sections 169A and 169B, of the CAA. It is the State's responsibility, through its EPA approved *State Implementation Plan* (SIP), to progressively work towards achieving the national goal of preventing and remedying any impairment of visibility in mandatory PSD Class I areas. The role of BLM and the USDA Forest Service in accomplishing this and in the administration of the wilderness area AQRVs, is to participate in the implementation, development and revisions of the SIP.

BLM recommends that the USDA Forest Service work with the State of Wyoming to protect air quality, helping to ensure no adverse impacts occur to PSD Class I areas administered by the USDA Forest Service.

Emissions Control - The air pollutant emission levels assumed for each well and compressor were based upon the analysis assumptions contained in the *Jonah II EIS - Revised Air Quality Technical Support Document* which included the application of current BACT determinations for similar emission sources to VOC emissions at well sites and NO_x emissions from compressors. In addition, analysis assumed compliance with Wyoming Department of Environmental Quality's *Oil and Gas Industry Section 21 Permitting Guidance Document* (June, 1997), i.e., requirements for existing, new and modified oil and gas production units under Wyoming Air Quality Standards and Regulations.

Well Site Emissions - The "Revised Air Quality Technical Support Document" (TRC, February 1998) provides the technical basis for the well site emission assumptions. Specific "near-field" modeling was conducted for particulate matter, sulfur dioxide, carbon monoxide, nitrogen dioxide, and hazardous air pollutants, and established the wellfield emission levels for these pollutants. The analysis assumed the application of BACT in permitting wells with VOC emissions greater than 20 tons per year.

Compressor Site Emissions - The Jonah II FEIS, based upon the Revised Air Quality Technical Support Document, concluded that 12,000 hp of compression (plus other cumulative sources) at 2.0 g/hp-hr would not cause perceptible (1.0) deciview) visibility impact to the Bridger Wilderness. However, under these same operating assumptions, the USDA Forest Service Limit of Acceptable Change (0.5) deciview) could be reached or exceeded on four days annually. No other air quality significance criteria would be exceeded.

If activity and corresponding emission assumptions and impacts exceed those used for the analysis, the BLM, in cooperation and consultation with WDEQ, EPA, USDA-Forest Service and other affected agencies, will undertake additional cumulative air quality environmental review as required by CEQ regulations 40 CFR 1502.9(c)(1)(ii).

Visibility Impact Mitigation - The Jonah II EIS *Cumulative Impact Analysis*, found that NO_x emissions associated with the development of the proposed natural gas projects (Jonah II, Fontenelle, Moxa Arch, Stagecoach Draw, and Jonah Prospect), when added to other existing and planned NO_x emissions in southwestern Wyoming, could result in a perceptible visual range reduction on 5 days annually (all during the winter) within the PSD Class I Bridger Wilderness Area.

However, based on the USDA-Forest Service established Limit of Acceptable Change of 0.5 deciview as a visibility impact threshold, potential Jonah II emissions, added to existing and proposed NO_x emission sources in southwestern Wyoming, could result in a perceptible visibility impact on 38 days

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annually within the PSD Class I Bridger Wilderness Area. This compares to 18 days at or above 0.5 deciview for the no action alternative. Modeling also indicated that total emissions of 158.6 tons of NO_x per year from the Jonah II Project Area would limit this impact to just one day, which is in accordance with the USDA Forest Service's Limit of Acceptable Change.

Through its responsibilities under the Wilderness and Clean Air Acts, the USDA-Forest Service has established a Limit of Acceptable Change for visibility of 0.5 deciview or greater to occur no more than one day per year in USDA Forest Service wilderness areas in Wyoming. The level of NO_x emissions for southwest Wyoming corresponding to this visibility limit to be 977 tons per year. The one day per year Limit of Acceptable Change for visibility, then, was the basis for establishing 977 tons per year NO_x emissions as the level of concern for impacts to the PSD Class I wilderness areas (Fontenelle and Moxa Arch RODs). By its authority to regulate air quality impacts in PSD Class I areas through its EPA approved SIP, the State of Wyoming, pursuant to the CAA (Section 169A), will determine the validity of the concern and identify the appropriate remedy for preventing impairment of visibility in the PSD Class I Bridger Wilderness. BLM, in cooperation with the state and the USDA Forest Service, will work within the context of the EPA approved State air program to protect the air quality within the Bridger and Fitzpatrick Wilderness areas.

Atmospheric Deposition Impact Mitigation - The *Cumulative Impact Analysis* (Section 4.1.6 of the FEIS) found that NO_x emissions associated with the development of the proposed natural gas projects (Jonah II, Fontenelle, Moxa Arch, Stagecoach Draw, and Jonah Prospect) would be below applicable significance criteria set by the USDA Forest Service for atmospheric deposition. These criteria included potential terrestrial nitrogen deposition less than 3 kilograms/hectare/year (kg/ha/yr), terrestrial sulfur deposition less than 5 kg/ha/yr, lake acidity change less than 0.1 pH, and a change in lake ANC less than 10 percent (for lakes with background ANC above 25 microequivalents per liter (eq/l)).

The USDA-Forest Service's established Limit of Acceptable Change from human caused pollutants for lakes with existing ANC levels below 25 microequivalents per liter (eq/l) is "no change" in the Bridger Wilderness. On this basis, the USDA-Forest Service indicated that any impacts from field development could exceed their Limit of Acceptable Change for any lakes with ANCs below 25 eq/l.

No additional air quality mitigation was determined to be necessary to further reduce potential atmospheric deposition impacts to low ANC lakes for the following reasons: 1) no lakes with ANC values below 25 eq/l were identified in the air quality impact assessment; 2) WDEQ requires air quality permits which would examine expected emissions from specific project components (such as compressors) prior to their construction; 3) WDEQ requires that a site-specific BACT analysis be conducted by the proponent as part of its pre-construction permit application and requires BACT be determined and applied in all air quality permits; and 4) all Federal actions associated with this project require additional site specific NEPA analysis by the Federal agencies which may identify additional emission control measures to ensure protection of air quality resources. These requirements will help mitigate potential NO_x emissions impacts.

Air Quality Mitigation Program - No additional air quality mitigation was determined necessary to further reduce potential air quality impacts for visibility, atmospheric deposition, or near field impacts (e.g., dust suppression, VOC and Hazardous Air Pollutants (HAPs) reduction) for the following reasons: 1) for the reasons listed above under "Atmospheric Deposition"; 2) because construction and operation would meet all applicable National Ambient Air Quality Standards and Wyoming Ambient Air Quality Standards; and 3) near-field pollutant concentrations during operation would not "overlap" between well locations, even with the densest assumed well spacing.

As previously described in the *Visibility* sections, a visibility level of concern has been identified due to total NO_x emissions from future permit authorizations (including rights-of-way, sundry notices, and applications for

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permit to drill). These levels have been established at 977 tons per year of NO_x within the Rock Springs District, including the Jonah II, Moxa Arch, Fontenelle, Stagecoach Draw, and Jonah Prospect development areas and a total of 158.6 tons per year of NO_x emissions for the Jonah II Project Area. The total NO_x emissions level of concern of 977 tons per year corresponds to the USDA Forest Service recommendation and the 158.6 tons per year level is based on analysis reported in the FEIS. These limits would result in USDA Forest Service Limits of Acceptable Change for visibility (0.5 deciview) to be exceeded no more than one day per year. The NO_x emissions level of concern will remain at 977 tons per year for southwest Wyoming and 158.6 tons per year for the Jonah II PA until the State of Wyoming SIP, SWYTAF, or other information source, provide recommendations, that are acceptable by BLM, that they should be changed.

Operators will cooperate with BLM and WDEQ in determining when or if NO_x emission levels, from all activities within the BLM Rock Springs District (including the Jonah II, Moxa Arch, Fontenelle, Stagecoach Draw, and Jonah development areas), reach 977 tons per year above January 1, 1996 levels. If this level of emissions is reached, BLM will notify EPA, the USDA Forest Service, and the WDEQ that further emissions may have an adverse impact on air quality related values. Further, BLM, consistent with its letter of Agreement for Tracking Nitrogen Oxide Emissions with WDEQ dated June 20, 1997, and in cooperation and consultation with WDEQ, EPA, USDA Forest Service, and other affected agencies, will continue to track air quality in the affected region, and will verify the level of emissions, determine visibility impacts through additional modeling, and determine whether unanticipated visibility impacts are predicted or occurring in order to produce additional documentation that may be required under the National Environmental Policy Act (NEPA). BLM will use this information in making recommendations to EPA regarding air quality and to WDEQ regarding permitting for existing leases, and in making decisions regarding future leases on BLM-administered lands.

If visibility impacts are determined to be greater

than predicted at 977 tons of NO_x and/or if increased contributions of other pollutants (such as volatile organic compounds (VOCs)) result in higher emission levels than stated in the BLM cumulative air quality impacts analysis, then BLM will conduct additional NEPA analysis and/or additional monitoring. The additional information will be used to make recommendations to WDEQ regarding permitting of further development under existing leases, as well as BLM decisions regarding future leases. To the extent authorized by the lease terms and federal or state law, operators may be required to cooperate in the implementation of a supplemental coordinated air quality monitoring program or emissions control program.

Air Quality Monitoring/Tracking Program - Based on the preceding descriptions of potential impacts, identified mitigation measures, and tracking program, no additional air quality monitoring requirements are necessary to measure and track potential air quality impacts. The BLM will continue to cooperate with existing visibility and atmospheric deposition impact monitoring programs. Additional monitoring needs may be identified by SWYTAF. If so, BLM will cooperate with WDEQ, EPA, and the USDA Forest Service to implement the identified monitoring needs. BLM understands that the USDA Forest Service will be installing up to 3 new monitoring stations between Pinedale and South Pass in the near future.

It is also BLM's understanding that the Operators will be installing a meteorological station in or near the Jonah II Project Area to collect actual weather information.

The BLM will maintain communication with WDEQ to monitor NO_x emissions levels. Implementation will require close coordination between the Federal land management and state environmental regulatory agencies regarding receipt of applications for NO_x emitting sources and maintenance of the NO_x emissions inventory. WDEQ and the BLM will jointly monitor and track NO_x emission levels within the Rock Springs District (including the Jonah II, Moxa Arch, Fontenelle, Stagecoach Draw, and Jonah development areas) and share data with each other and other interested agencies as

requested.

iPaleontology

To avoid unnecessary and undue impacts to the paleontology resource workers should be informed of the potential for encountering fossils and what steps to take if they do. It is illegal to remove any vertebrate fossil from public lands without a permit. This will be explained to workers so they will not inadvertently break the law.

iSoils

Reclamation success depends upon many site specific factors. BLM may need to require the Operators to collect this information and include it in their applications on a case-by-case basis. Erodible or hard to re-vegetate soils should not be disturbed any more than absolutely necessary, hence the restrictions on disturbing the Monte-Leckman complex, Huguston-Horsley-Terada complex, stabilized dune, and alkaline soils.

Project related travel is restricted to constructed, surfaced roads when soils are saturated and rutting could occur to avoid compacting the soil and accelerating soil erosion.

Sandy soils associated with Sand Draw, Granite Wash and Alkali Draw will be avoided except to cross at right angles, to minimize possible erosion and protect important sage grouse habitat. These soils are erosive, difficult to revegetate, contain buried cultural material, and supports tall sage brush which is important sage grouse wintering habitat.

iWater Resources

All reserve pits are to be lined, unless an exception is granted by the AO, to avoid migration of pit fluids beyond the pit. The Operators are encouraged to haul fluids from one pit to the other, as much as is practical, instead of using fresh ground water. The goals are to reduce the amount of fluids needing to be disposed of and to conserve freshwater. BLM may on a case-by-case basis require that fracturing flow back fluids be contained in

tanks and disposed of in an approved off-site location if unacceptable impacts would occur if it was disposed of in the reserve pit. In any case, all fracturing fluids and condensate fluids are to be contained in the reserve pit and not allowed in the flare pit or the surrounding area. This is required to prevent unnecessary impacts on vegetation and soils.

iNoise and Odor

All engines and compressor exhaust stacks are to be muffled to reduce noise. While there are no dwellings in the well field there are workers and other users. It is reasonable to reduce the amount of noise generated by engines and compressors via normal muffling procedures. Mufflers would reduce impacts on the ability of sage grouse to hear each other during the mating season.

iVegetation

Vehicular traffic is limited to the running surface of roads and designated well locations as approved in APDs and ROWs. This is required to prevent undue impacts to vegetation, avoid soil compaction and accelerated erosion. Traffic on two-tracks are being restricted for the same reasons.

BLM and the Operators will monitor reclaimed areas to assure successful reclamation occurs.

iWildlife

BLM will work with the Operators, ranchers, WGFD, and other interested parties to obtain additional water sources to increase seasonal use of the area by pronghorn and sage grouse. It is hoped that waters can be developed and maintained in a cooperative, voluntary manner with all interested parties being involved.

Inventory and monitoring of wildlife will be conducted as specified in the Wildlife Monitoring/Protection Plan (see Appendix D). Appropriate management decisions will be made to further protect wildlife and their habitats. The Operators made the Wildlife Monitoring/Protection Plan a part of the proposed action, so it will be implemented. It is impossible to foresee all threats to wildlife and their habitats at this stage of the project.

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BLM is preserving its options of making specific decisions in these unforeseen instances to protect wildlife and their habitat.

ï Raptor Nest Protection

The buffer zone established around raptor nests is to ensure the future functional use of raptor nests and raptor recruitment of young following construction and drilling operations. The buffer is in response to consultation with the USFWS and is based upon the findings of several research studies designed to determine raptor flushing distances due to human activity.

ïSage Grouse

The sage grouse is the predominant and most important game bird in the analysis area. Data from the WGFD indicate that State-wide numbers of sage grouse declined between 1987 and 1992.

The entire analysis area is generally considered year-round habitat for sage grouse. Important habitat areas for these birds are strutting grounds (leks), brood-rearing areas, and wintering areas. Based on BLM and WGFD historical records and aerial inventories completed in the spring of 1996 and 1997, a total of 8 sage grouse leks were identified within the analysis area. Data from historical records suggest that nearly all of the leks identified within the analysis area were active within the past few years.

Lek Protection - To avoid displacing sage grouse from strutting, surface disturbance within 0.25 miles of a sage grouse lek (strutting ground) will be avoided. Also, to avoid enhancing raptor predation on strutting sage grouse, permanent, high profile structures such as buildings, storage tanks, overhead powerlines, etc., will not be allowed within 0.25 miles of a lek (the area may be enlarged, if justified, on a case-by-case basis). Linear disturbances such as pipelines, seismic activity, etc., could be granted exceptions. The BLM and WGFD will continue to gather and evaluate information on sage grouse leks in potential sage grouse habitat between February 1 and May 15. These field evaluations for leks will be conducted to verify the lek activity. BLM and WGFD wildlife biologists will

ensure that such surveys are conducted using proper survey methods at the proper time of year.

Nesting Protection - To avoid displacing sage grouse from nesting habitats, construction activities within a two-mile radius of active leks will be avoided from March 1 through June 30, or as designated by the BLM AO. The application of BLM seasonal occupancy restrictions will result in the avoidance of impacts to breeding and nesting activities, and implementation of a reclamation/habitat restoration plan will, over time, mitigate the long-term loss of sage grouse habitats.

Wintering Areas - Tall sage brush, primarily associated with Sand Draw, Granite Wash, and Alkali Wash, will be avoided, except to cross the drainages at right angles. This will be done to minimize disturbance of tall sage brush which is important sage grouse wintering habitat.

ïSpecial Status Species

The measures listed under this section are required to comply with the Endangered Species Act. Species listed here and in the Proposed action, and Wildlife Monitoring/Protection Plan (Appendix D). Changes in the scope of the project that may result in an effect to listed, candidate, or migratory bird species or their habitat will require notification of the USFWS and the WGFD to cooperatively work with the project proponents to identify measures to protect and minimize potential impacts.

ïCultural Resources

The primary tool for mitigation of impacts to cultural resources is to avoid cultural sites because the site is not impacted and is left intact for future generations and study. If that is not practicable then impacts must be mitigated on a case-by-case basis or via pre-established methods. Excavation is the primary form of mitigation to prehistoric sites that can't be avoided. Unexpected discoveries will be handled on a case-by-case basis but salvage excavation will normally be required because the site has been impacted. Salvage excavation recovers what information remains and allows

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the action to proceed.

The BLM has consulted with the Native Americans to identify areas of importance to them as required by laws, regulations, and Executive Orders.

An educational program to inform employees and visitors about the regulations concerning cultural resource management and artifact collection is required of the Operators because of the sensitivity of the resource and laws prohibiting their disturbance and removal from public land.

Construction in archaeologically sensitive areas during frozen ground conditions will normally be prohibited because excavation is often required and it is extremely difficult, if not impossible, to do in frozen soils.

Mitigation of effects to significant historic period cultural resources will be determined subsequent to consultation with all interested parties. This is standard operating procedure for BLM.

The Operators will be encouraged to enter into programmatic agreements, discovery plans, and /or individual project treatment plans. These plans make decisions ahead of time therefore actions in the field can be carried out much quicker, especially when unexpected discoveries are made. A draft programmatic agreement has been prepared and work continues on getting it finalized. Geoarchaeological studies would enable predictions of cultural sites based on soil types.

Sandy soils, subject to accelerated erosion when disturbed, within 300 feet of the edge of the drainage channels of Sand Draw, Granite Wash, and Alkali Draw contain buried cultural material. Avoiding these soils will protect these cultural resources.

Patrols will be increased to deter illegal collecting of cultural materials.

BLM will work with the Operators to minimize impacts on sensitive cultural resources and/or areas sensitive to Native Americans. Where potential impacts to these resources cannot be adequately mitigated while allowing a proposed

action, the use and occupancy of these areas may be prohibited entirely.

iSocioeconomics

BLM will work with the Operators to plan proposed development operations such that seasonal restrictions do not impact the associated workforce. BLM cannot force the Operators to drill year round. The boom-bust cycle is of extreme concern to the local workforce, towns, county, and to a lesser extent the entire State of Wyoming. BLM will work with the Operators to facilitate year round, constant development but it is beyond BLM's authority to require it.

iLand Use

Roads not needed by the Operators or other users will be reclaimed and revegetated by the Operators following Class III cultural resource surveys. This is required because of the concern about the number of roads in the area. Roads reduce the amount of forage available, causes accelerated soil erosion, and fragment wildlife habitat. Reclaiming unneeded roads is one way to reduce these impacts.

Adequate turnouts on new crowned-and-ditched roads to provide access to existing two-tracks and other undeveloped roads will be required. Ranchers pointed out that crowned-and-ditched roads often prevent them from accessing two-tracks with low clearance vehicles (trailers). This requirement is meant to eliminate that concern.

iLivestock Grazing

All pits containing fluids will be fenced to keep livestock and big game from drinking any contaminated water. This requirement is meant to protect livestock and big game animals in the event that harmful substances are in the pit.

iHazardous Material

Portable sanitary facilities are being required because of concerns expressed in comments on the EIS about human wastes being a problem after the wells are completed.

Monitoring and Mitigation

This measure is intended to emphasize the importance of monitoring.

The EIS prepared on the Jonah II Natural Gas Development Project will guide implementation of the natural gas development; however, it is not the final environmental review upon which approval of all actions in the area will be based. Site specific environmental assessments (EAs) will be required for each well and associated access road, pipeline, and other actions in accordance with the BLM National Environmental Policy Act Handbook (H-1790-1). This provision for site specific evaluation of environmental protection needs will ensure that there is optimum consideration given to resource protection.

Compliance Monitoring

Several comments on the DEIS question BLM's ability to adequately assure adherence to authorizations during construction and reclamation of well pads, roads, and pipelines. In order to help alleviate this concern, the Operators, collectively or individually, will be required to name a sole point of contact by June 17, 1998 for BLM to deal with in correcting all surface resource concerns. BLM will name a project manager as well by June 17, 1998. This person will be the sole point of contact for the Operator's designated person. Having a designated project manager for BLM, whose primary job will be to conduct compliance inspections, will help expedite identification and resolution of problems.

Because of the importance of mitigation to avoid or minimize adverse impacts, implementation of an intensive monitoring program is essential. The Operators and the BLM will provide representatives on the ground during and following construction to validate construction, reclamation, other approved design, and compliance commensurate with the provision of this decision.

Authorized Officer

The explanation provided for who the AO is and what the AO's authority is.

Rationale for Not Bringing Identified Mitigation Forward

This section briefly explains what possible mitigation measures identified in the EIS were not accepted for implementation.

These mitigating measures were not accepted because WDEQ is the agency responsible for managing air quality in Wyoming. Therefore, BLM cannot require the following mitigating measures.

Air Quality

The air quality impact assessment also evaluated potential NO_x mitigation measures to further reduce NO_x emissions for natural gas-fired, internal combustion compressor engines. The evaluation was not intended to rank or identify a required technology for the proposed compressors; the appropriate level of control would be determined and required by WDEQ during the preconstruction permit process (e.g., limiting horsepower or NO_x BACT emission levels). For example, Table 4.2c in the FEIS presents the NO_x emissions levels under alternative well numbers compression horsepower, and NO_x BACT scenarios which could be used to reduce potential visibility impacts at the PSD Class I Bridger Wilderness Area. In developing the emission inventory for the Jonah II Project Area assessment, it was assumed that compressor engines would have a maximum NO_x emission rate of approximately 2 g/hp-hr of operation. This reflects the use of current BACT determinations for similar emission sources. It is noted that some Operators are currently using natural gas compressors with catalytic convertors that have average NO_x emissions rates 2.0 g/hp-hr. Alternate control measures evaluated in the FEIS that could be considered by WDEQ, the agency with jurisdiction for air quality within the State Of Wyoming, include the following:

- **Nonselective Catalytic Reduction.** This control technology is applicable to relatively new engines and requires the installation of catalysts in the engine exhaust. The catalyst removes between 80 and 90% of the uncontrolled NO_x emissions, for an operating

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emission rate of 1-5 g/hp-hr.

- **Lean Combustion.** This technology involves the increase of the air-to-fuel ratio to lower the peak combustion temperature, thus reducing the formation of NO_x (new engines and retrofit applications). The controls are between 80 and 90% efficient, for an operating emission rate of 1.5-4.0 g/hp-hr.

- **Selective Catalytic Reduction.** This is a post-combustion control technology which is only applicable to exhaust streams with significant oxygen content (a lean combustion engine). The controls are between 80 and 90% efficient, for an operating emission rate of 1.0-2.5 g/hp-hr.

The following additional mitigation measures could also be used by the Operators to further reduce potential air quality impacts:

- **Reducing the need for LOP compression** by installing larger pipelines.

- **Centralized Well Gas Processing.** To reduce VOC emissions, untreated gas from four or more wells could be transported by pipeline to a single central collection/treatment battery (separator and dehydrator units).

- **Well Gas Flaring of Condensate Tank Vapors.** Additional VOC control from condensate storage facilities, such as flaring of VOC emissions, could also be required, although NO_x emissions would likely increase.

- **Re-injection of Vented Well Gases.** Vent stream gases (i.e., gases released during venting/flaring) could be compressed to reservoir pressure then re-injected into the natural gas formation, essentially eliminating direct vent stream emissions. Typical vent stream emissions consist primarily of methane and small amounts of VOC and other trace gases. However, additional air pollutants (e.g., NO_x) would be emitted by operation of the re-injection compressor engines.

- **Natural Gas-Powered Drilling Rigs.** The use of natural gas-fired engines rather than diesel-powered equipment to power drilling

rigs, mud pumps, and associated equipment, is technically feasible for reducing emissions of particulate matter and VOC. However, NO_x emissions are likely to increase with the use of natural gas-fired engines due to potentially higher combustion temperatures.

- **Electric Compression** (including solar power). Using electric-powered compressor motors in place of the typical natural gas-fired compressor engines could essentially eliminate direct NO_x emissions from compressor station locations. However, increased NO_x emissions may occur at the point of electrical generation, often burning dirtier fuels and emitting more air pollutants (such as from coal-fired power plants). Photovoltaic (solar) electrical systems cannot achieve the power requirements necessary for gas compression proposed for the Jonah Field II project (12,000 hp). Specific cost estimates for electric-powered compression are not available, but the cost of providing sufficient, reliable electrical power to relatively remote compression locations plus the cost of the electric compressor motors and electricity, is expected to be prohibitive.

- **Fuel Cell Technology.** An evaluation of fuel cell technology was done as the result of Draft Environmental Impact Statement (DEIS) comments suggesting its use; however, the evaluation revealed that it is not currently feasible to connect enough fuel cells together to generate the compression horsepower necessary for the project. Currently, only two fuel cells have been connected in a series, at least six fuel cells would be required to operate a typical 1,500-hp compressor motor, and it would take nearly 48 fuel cells to provide the 12,000 hp of compression required for this project. Even if it were technically feasible, costs would make it uneconomic.

- **Additional New Technologies.** New technologies may become available during permitting which are not currently evident, and these technologies could be adopted by WDEQ to further reduce potential AQRV impacts.

Again, this evaluation was not intended to rank or identify a required technology; the appropriate level of control would be determined and required by the WDEQ during

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the preconstruction permit process.

In addition to these technology-based mitigation measures, there are natural resource management actions which could further mitigate potential air quality impacts. The following potential mitigation measures may be outside the jurisdiction of the BLM's management authority. It should be noted that reductions in NO_x emission rates will enable more wells to be developed which helps achieve the goal of maximum economic recovery of oil and gas.

- **Suspend Future Development Until Air Quality Issues Are Resolved.** The BLM can deny an individual APD only under very specific conditions. However, WDEQ (the primary air quality regulatory agency), under EPA oversight, would review potential air pollutant emission sources and issue any applicable emission permits prior to construction/operation. Without their approval, the natural gas leases cannot be developed.

- **Withdraw or Prohibit Future Leasing.** Once the Secretary of the Interior has issued a valid mineral lease, it may only be conditioned (not revoked). Similarly, under current federal mineral law, future leasing can be prohibited only in specific circumstances. The U.S. Congress could revise these laws, but as stated in the FEIS, "the prospect of securing passage of such legislation and appropriation of funds for that specific purpose is extremely remote." In addition, elimination of natural gas leasing is inconsistent with Congressional direction (through the CAA) for development and promotion of alternative clean fuels needed to improve air quality nationally.

- **NO_x Emissions Cap and Trade.** Existing NO_x emission facilities could either keep, trade, or sell their emission allocations to other groups seeking to increase their NO_x emissions. When coupled with banking (holding, but not using credits) and discounting (reduced emission credit values with each trade), overall NO_x emissions would decrease. Under the CAA, Congress has already established an allowance program for certain sulfur dioxide (SO₂) emitting facilities,

and Congress could establish a similar NO_x trading program to be implemented by WDEQ or EPA.

- **BACT on Existing VOC Sources.** Only WDEQ and EPA have the authority to regulate existing air pollutant emission sources, and even their authority is limited by law.

- **Phased (Staged) Development.** This suggestion is similar to the current USDA Forest Service-identified 977 tons per year NO_x emissions "level of concern" for all BLM-initiated or authorized activities within the Rock Springs District, including the Jonah Field II project. However, the 977 tons per year NO_x emissions "level of concern" regarding potential visibility impacts within the PSD Class I Bridger Wilderness Area is not a cap (upper limit) for authorized development on public lands in the Rock Springs District. The BLM recognizes that it does not have the authority to require that development of existing leases be limited when the emissions level identified by the USDA Forest Service (977 tons per year NO_x) is reached. Rather, it is the point at which re-evaluation shall occur to provide timely management review to ensure compliance with the federal land managers' mandate to protect AQRV through participation in state permitting of facilities.

•Noise and Odors

Remote monitoring of selected wells and pipeline condensates and produced water to central collection points in order to reduce the number of trips and associated noise was not selected because of the increased costs to resolve a minimal impact. Noise from vehicles traveling the oil field roads to check wells and in hauling out condensate is minimal and noise was not demonstrated to be a concern, except perhaps to strutting sage grouse. Sage grouse strut early in the morning before traffic begins to become a factor in hens being able to hear the booming males. Leks will be avoided by at least 1/4 mile, therefore noise from vehicles would not interfere with their use of leks.

Improved separator/dehydrator units and/or VOC capture systems at condensate tanks to reduce odors was not selected for

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implementation because of the cost and minimal need to do so. There are no homes near the Jonah II project area, therefore any offensive odors would be very temporary to all visitors. Workers may experience longer exposure but no significant health risks were identified.

• Wildlife

Netting of all reserve pits will not be required. BLM policy requires the operators to maintain any pits with harmful fluids in them in a manner that will prevent migratory bird mortality. When it is in place netting provides the best protection but it is extremely difficult to keep in place due to high winds and heavy snows common in southwestern Wyoming. The Operators committed in the Proposed Action to adequately protect wildlife from accessing reserve, workover, and production pits potentially hazardous to wildlife.

A 0.5 mile seasonal avoidance buffer from March 1 through May 30 to further protect sage grouse leks was not selected for implementation. BLM has only somewhat recently been requiring the 1/4 mile buffer. While there are some with concerns that the current 1/4 mile buffer is not enough there is no evidence that the 1/4 mile is not sufficient, nor are there any studies to support the need for a 0.5 mile buffer.

•Hazardous Material

All pipelines left in place upon abandonment will be not be required to be filled with a clay or cement slurry during the abandonment process at this time. A state wide policy needs to developed on this issue. If and when it is accepted as a state wide policy then it will be implemented.

SUMMARY OF THE JONAH II NATURAL GAS DEVELOPMENT PROPOSED ACTION AND ALTERNATIVES

The Jonah II analysis area is located in Sublette County, Wyoming, as shown in Map 1.1. The area is located within the BLM Rock Springs District Pinedale and Green River Resource Areas. The analysis area is generally located

within Townships 28 and 29 North (Ts. 28-29 N.), Ranges 107 through 109 West (Rs. 107-109 W.), 6th Principal Meridian. The Jonah II analysis area encompasses approximately 59,600 acres of federal, State, and private lands.

Alternative Selection Process

The Jonah II Natural Gas Project EIS analyzed three alternatives to the Jonah II Operators' Proposed Action; Alternative A (sensitive resource protection), Alternative B (maximum density of 4 well locations per section) and Alternative C (No Action).

The Proposed Action of drilling and developing 450 well locations in addition to existing drilling and production operations authorized by the Jonah EA.

Based on the current understanding of the natural gas reservoir characteristics (i.e., geology, flow data from existing producers, expected recovery factors, and economics), a maximum development level of eight wells per section at 80-acre spacing is deemed appropriate for the Jonah II analysis area.

Proposed Action - The Jonah II *Proposed Action* would increase drilling production in the Jonah II analysis area through the development of up to 450 well sites in the next ten to fifteen years in addition to existing operations, as well as development of related roads, pipelines, and production facilities.

This scenario would allow Jonah II Operators to fully develop natural gas reserves to Wyoming Oil and Gas Conservation Commission (WOGCC) approved spacing requirements. The precise number of wells, locations of the wells, and timing of drilling would be directed by the success of development drilling and production technology, and economic considerations such as the cost of development of leases having marginal profitability.

The PA would be implemented over the 10- to 15-year planning period of 1997 through 2012. The development scenario would affect approximately 1,527 acres due to road/pipeline construction (180 miles with a 75-foot

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right-of-way), 121 acres from main road re-construction, 16 acres from compressor stations, 5 acres from water wells, and 1,125 acres from well sites (450 well sites with 2.5 acres of disturbance per site) for a total disturbance of approximately 2,927 acres of land (5 percent of the Jonah II analysis area). The total area of disturbance would be reduced during the production phase through reclamation of disturbances associated with the unused portion of road rights-of-way and well sites, and total reclamation of pipeline rights-of-way. As such, under the PA, total disturbance would be reduced approximately 1,993 acres, from 2,927 acres to approximately 934 acres, assuming the development of all 450 well locations.

Original disturbance in the Jonah II analysis area from the construction of existing well sites, roads, pipelines, and facilities was approximately 457 acres in 1996, or approximately 0.8 percent of the total 59,600-acre analysis area. Cumulative long-term disturbance from implementation of the PA would be approximately 1,086 acres (1.8 percent of the analysis area).

Operators initially proposed a range of 150 to 450 wells, with 300 to 350 wells being the most probable number of wells to be in place at any one point in time. To prevent the underestimation of possible project impacts, analyses were conducted for the greatest possible number of wells (450) the Operators felt could be required to fully develop the project. Therefore, all impacts analyses contained in the EIS assumed 450 wells would be drilled and produced. Realistically there would likely be fewer wells, probably around 300. If this is the case, then all impacts identified herein would be overestimated.

Alternative A - *Alternative A* would provide a reduced-level development scenario of 420 additional production well sites in addition to existing operations, with related roads, pipelines, and production facilities.

Implementation of this alternative would involve 168 miles of new road and gas-gathering pipeline. Construction would involve 1,050 acres of well site disturbance, 121 acres of main road disturbance, 135 acres

of sales pipeline disturbance, 5 acres of water well disturbance, and 16 acres of compressor station disturbance, for a total disturbance area of approximately 2,750 acres. As with the Proposed Action, a large portion of this area would be reclaimed, thus reducing the total disturbance by approximately 1,872 acres to a total of 878 acres. This development scenario would be implemented over the ten to fifteen year planning period of 1997 through 2012. Cumulative long-term disturbance with the implementation of Alternative A would be approximately 1,030 acres, or 1.7 percent of the analysis area.

Alternative B - Four Well Locations Per Section

Alternative B would provide a reduced-level development scenario of 327 additional production well sites in addition to existing operations, with related roads, pipelines, and production facilities.

Implementation of this alternative would involve 1,145 miles of new road and gas-gathering pipeline. Construction would involve 842 acres of well site disturbance, 121 acres of main road disturbance, 133 acres of sales pipeline disturbance, 5 acres of water well disturbance, and 16 acres of compressor station disturbance, for a total disturbance area of approximately 2,262 acres. As with the Proposed Action, a large portion of this area would be reclaimed, thus reducing the total disturbance by approximately 1,538 acres to a total of 724 acres. This development scenario would be implemented over the ten to fifteen year planning period of 1997 through 20012. Cumulative long-term disturbance with the implementation of Alternative B would be approximately 876 acres, or 1.5 percent of the analysis area.

Alternative C - No Action - *Alternative C*, the "No Action" alternative, would allow the on-going natural gas production activities to continue by the BLM in the Jonah II Project area, but neither the Proposed Action nor Alternative A or B would be allowed. Transport of natural gas products would be allowed from those wells within the analysis area that are currently productive. Cumulative disturbance with the implementation of the No

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Action alternative would be limited to the existing unreclaimed disturbance area of approximately 236 acres, approximately 0.4 percent of the analysis area.

Analysis of the No Action Alternative provides a benchmark of existing environmental impact against which the decisionmaker can compare the environmental effects from the Proposed Action and Alternatives A and B. The No Action Alternative assumes no further authorizations for development would be granted on public lands within the Jonah II Project area. It would deny the actions proposed as well of any alternatives. Natural gas recovery would be limited to that presently being produced from active wells within the Jonah II Project area, and continued use and maintenance of access roads and pipelines within the project area.

Because the Jonah II Operators' leases and their proposals to develop their leases are in conformance with existing planning guidance for managing the area, and because the impact analysis demonstrates that the adverse impacts associated with the implementation of the development could be mitigated, the denial of development would not be a reasonable exercise of discretion. Unacceptable adverse impacts are not anticipated. The need to preclude a company from occupying the surface (as in the case of a lease with a No Surface Occupancy (NSO) stipulation) cannot be justified. Unnecessary degradation of public land resources will be avoided given the Jonah II lease terms and conditions, the lease stipulations, and the required APD, ROW, SN, TUP conditions of approval identified through the Jonah II EIS.

The actions analyzed in the Environmental Impact Statement (EIS) concern development of existing leases (a valid existing right to develop the leased resource) issued to the Jonah II Operator's. To ensure the reviewing public understands, the DEIS included reference to judicial decisions pertaining to limitations on the BLM's authority to implement the No Action Alternative where the proponent has a valid existing right. Nevertheless, the Secretary of the Interior has the authority and responsibility to protect the environment within Federal oil and gas leases,

and restrictions can be imposed on the lease terms by BLM. These restrictions appear in the form of lease stipulations, or in the case of post-lease situations where further protection of a resource is warranted, as the BLM's standard stipulations and conditions of approval (COAs) developed through the NEPA analysis process.

As explained in the FEIS, an oil and gas lease grants the lessee the right and privilege to drill for, mine, extract, remove, and dispose of, oil and gas deposits in the leased lands, subject to the terms and conditions incorporated in the lease. On land leased without an NSO stipulation, the Secretary of the Interior cannot deny the permit to drill but can only impose mitigation measures. In the absence of a No Surface Occupancy stipulation covering the entire lease, restrictions based on oil and gas lease operations must be "reasonable" and cannot directly or indirectly prohibit, altogether, the development of the lease. Although an individual APD can be denied, the right to drill and develop somewhere on the leasehold cannot be denied by the Secretary. To deny all activity may constitute a breach of contract and may violate an operator's right to conduct development activities on the leased lands. Authority for complete denial can only be granted by Congress, which can order the lease forfeited subject to compensation (*Union Oil Company of California v. Morton*, 512 F.2d 743, 750-51; 9th Cir. 1975).

Also, Federal Regulation 43 CFR 3162 - (*Requirements for Operating Rights Owners and Operators*) further constrains that which may constitute reasonable restriction in the development of a lease. The regulation states: "The operating rights owner or operator, as appropriate, shall comply with applicable laws and regulations; ... These include, but are not limited to, conducting all operations in a manner ... which results in maximum ultimate economic recovery of oil and gas with minimum waste and with minimum adverse effect on ultimate recovery of other mineral resources." (emphasis added).

Alternatives Considered but Not Analyzed in Detail

An alternative that included a well location density of 16 wells/section (40-acre spacing)

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was considered but rejected, since the current understanding of gas reservoir characteristics on and adjacent to the Jonah II Project Area do not yet indicate the need for 40-acre spacing and analyzing a 40-acre spacing scenario would overestimate anticipated environmental impacts. If a 40-acre spacing is deemed appropriate in the future, additional NEPA analyses would be required (e.g., a supplemental EIS).

A phased development alternative was considered and rejected, since the Proposed Action, as presented by Operators, involves the incremental development of the Jonah II Project Area. Wells would be developed as the extent of natural gas reservoirs is defined and infill drilling would occur, as necessary, to ensure that gas production precedes in the most efficient manner. In addition, an alternative mandating the use of directional drilling was also considered but rejected since all alternatives considered in this EIS may involve the use of directional drilling to access natural gas reserves beneath areas with sensitive surface resources.

Alternatives involving fewer wells and associated facilities on the Jonah II Project Area were also considered. These alternatives were rejected because the extent of development necessary to recover existing natural gas resources on the project area is presently unknown. Therefore, limiting the number of wells could result in the by-pass of federal mineral resources and/or the necessity for future NEPA analyses.

Environmentally Preferred Alternative

In accordance with the CEQ Regulations for implementing NEPA (40 CFR 1505.2(b)), the environmentally preferred alternative must be identified in the ROD.

The environmentally preferred alternative for the Jonah II Project is the Preferred Alternative with selected mitigation measures described earlier, that would further reduce environmental impacts. The BLM believes that the Proposed Action promotes the national environmental policy as expressed in NEPA's Section 101. The Proposed Action will protect, preserve, and enhance historic,

cultural, and natural resources equally as well as Alternative A or B. In addition, the Proposed Action: 1) best meets the BLM statutory mission under the Mineral Leasing Act and the Federal Land Policy and Management Act; 2) identifies additional and required mitigation which includes all reasonable and practicable means to avoid or minimize environmental harm from the proposed development; 3) includes an intrinsic mechanism by which further opportunity exists to reduce or minimize environmental harm; and 4) includes a monitoring and enforcement program which will be structured to ensure implementation and maintenance of necessary mitigation.

Also, selection of the Proposed Action as the Preferred Alternative is based on the analyses presented in the Jonah II Natural Gas Development Project EIS, which complies with the Pinedale and Green River Resource Management Plans and incorporates the commitment to implement specific mitigation measures. This selection is based on the analyses presented in this EIS and incorporates compliance with the Pinedale Resource Area (PRA) Resource Management Plan (RMP) (BLM 1988). Mitigation measures include the following:

- 1) applicant-committed mitigation/ environmental protection measures (DEIS Sections 2.1, 2.4, and especially 2.4.11);
- 2) Transportation Plan (Appendix A);
- 3) Reclamation Plan (Appendix B);
- 4) Hazardous Materials Summary (DEIS Appendix C);
- 5) Wildlife Monitoring/Protection Plan (Appendix D); and
- 6) additional mitigation measures identified for various resources selected in this ROD.

Besides the identified additional and required mitigation, the Proposed Action is environmentally preferred because it: 1) incorporates the added emphasis to comply with all Federal, State, and other regulatory requirements during construction, drilling, completion, and field production operations; 2) incorporates the consideration to modify facility designs, construction techniques, operating

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practices, and abandonment and reclamation procedures to avoid or minimize environmental impacts; 3) incorporates EPA and Wyoming Department of Environmental Quality best management practices (BMPs) for storm water discharge prevention which will minimize off-site sedimentation and erosion by protecting soils; 4) provides recommendations on mitigation measures and assists with analysis of potential impacts, and BLM is working with USDA Forest Service, DEQ, and EPA to protect air quality related values within the Class I wilderness areas of the Bridger-Teton and Shoshone National Forests; 5) incorporates appropriate and reasonable measures from the draft and final EIS that provide further opportunity to avoid or reduce impacts, provide for monitoring and enforcement as an on-going activity by the agencies and Operators which will ensure implementation of the mitigation, evaluation of its functional effectiveness, and ensure successful reclamation; 6) incorporates proponent-committed project-wide measures for preconstruction planning and design (DEIS Section 2.4) and incorporates environmental standards, procedures and requirements for implementation of the Jonah II Area Natural Gas Development Project (Appendix C); 7) contains a Hazardous Substances Management Plan (Appendix C of the DEIS); 8) incorporates the Jonah II Transportation Plan and annual updates (Appendix A); 9) incorporates the Reclamation Plan (Appendix B); 10) incorporates the Wildlife Monitoring/Protection Plan (Appendix D); and 11) incorporates additional mitigation opportunities for the minimization of impacts to various resources.

The BLM believes that the analyses presented in this EIS demonstrate that the Proposed Action with accepted mitigating measures would meet the requirements of 43 CFR 3162.1(a), which directs Operators to conduct "all operations in a manner which ensures the proper handling, measurement, disposition, and site security of leasehold production; which protects other natural resources and environmental quality; which protects life and property; and which results in maximum ultimate economic recovery of oil and gas with minimum waste and with minimum adverse effect on the ultimate recovery of other mineral

resources".

The preferred alternative is to permit up to 450 well locations at 8 wells per section (80-acre spacing) in the Jonah Field II project area. Approximately 180 miles of new roads with adjacent pipelines, 17 miles of improvements to the Burma and Luman roads, 4 compressor stations, 10 water wells, and 22 miles of sales pipeline would be authorized as well. Standard procedures as currently used in gas field developments throughout Wyoming and associated applicant-committed procedures would be employed during project development and operations. All project activities would comply with applicable federal, state, and county laws, regulations, and stipulations.

Development would occur on a yearlong basis provided there is adequate advanced planning and construction. Roads would be constructed upgraded, and maintained in accordance with the transportation planning process, approved road survey and design or gold book standards, and with Conditions of Approval in effect regarding timing and frozen or saturated soil restrictions described in the Transportation Plan for this project (see Appendix A). The Transportation Plan would be revised annually based on Operator plans and needs and public input.

Surveys for raptors and sage grouse would be conducted if activities are proposed between February 1 and July 31. Activities would be restricted within a 0.5-mile radius of active raptor nests, except ferruginous hawk nests, for which the seasonal buffer would be 1.0 mile. Surface structures requiring repeated human presence would not be constructed within 825 feet (2,000 feet (0.6 km) for bald eagles) of active raptor nests, where practical.

Surface disturbing activities would be avoided within 0.25 mile of sage grouse leks, and construction activities would be restricted within 2.0 miles of active leks from March 1 to June 30. High profile structures would not be constructed within 0.25 mile of a lek.

Compliance with the CAA would be accomplished through the State of Wyoming's permitting process. It is expected that various mitigating measures would be used to reduce

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regional NO_x emissions, thereby achieving the USDA Forest Service 0.5 deciview visibility Limit of Acceptable Change for the nearby PSD Class I Bridger Wilderness Area.

Based on reasonable but conservative analysis assumptions, the Jonah Field II Proposed Action could be operated in full compliance with the Clean Air Act and would not cause any significant (1.0 deciview) and adverse air quality impacts (see Table 1). However, when combined with other reasonably foreseeable cumulative impact sources, the Jonah Field II Proposed Action could cause perceptible visibility impacts (1.0 deciview) at the PSD Class I Bridger Wilderness Area on five days per year. (See Table 2). The USDA Forest Service Limit of Acceptable Change 0.5-deciview threshold would be reached or exceeded on 38 days per year when all cumulative impacts are considered (see Table 2). With the identified Jonah II Project total NO_x emission rate of 158.6 tons per year, the 0.5 deciview would only be reached on one day per year, which is in accordance with the USDA Forest Service's visibility Limit of Acceptable Change (see Table 1). However, even under the No Action Alternative, visibility impacts are predicted to reach or exceed the 0.5 deciview Limit of Acceptable Change on 18 days annually.

BLM recommended that the State of Wyoming control NO_x emissions by one or more mitigating measures. Examples of some potential emissions reduction options that may be used to reduce emissions to recommended levels are provided in Table 1. Additional options may become available and may be used to further reduce emissions; however, authority to require these measures lies with WDEQ. The project proponents will be required to meet WDEQ requirements for permits under the jurisdiction of the State of Wyoming.

MANAGEMENT CONSIDERATIONS

The decision to approve the Jonah II Project as described in the *Proposed Action* and subject to the above listed ROD administrative requirements and conditions of approval, will allow for the full development of the Jonah II natural gas reserve. This land use will become a dominate use, but not to the exclusion of

other existing principal and major uses (i.e., domestic livestock grazing, wildlife development and utilization, mineral exploration and production, rights-of-way, and outdoor recreation) as defined in Section 103(l) of FLPMA. The Jonah II Project has been under development since early 1993 and will continue to be developed for the next 30 to 50 years until maximum recovery of the natural gas resource has occurred.

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TABLE 1
SUMMARY OF NO_x EMISSIONS FROM ALTERNATIVE WELL NUMBERS,
COMPRESSION REQUIREMENTS, AND BACT

Jonah Field II Natural Gas Development Project, Sublette County, Wyoming, 1997

Number of Wells	Well Emissions (tpy)	Assumed Compression (hp)	Assumed NO _x BACT (g/hp-hr)	Compression Emissions (tpy)	Total Emissions (tpy)	Number of Days with Deciview ≥ 0.5
450	29.4	12,000	2.0	208.5	237.9	4 ¹
			1.0	104.3	133.7	1
			0.8	83.4	112.8	0
			0.7	73.0	102.4	0
300	19.6	8,000	2.0	139.0	158.6	1 ²
			1.0	69.5	89.1	0
			0.8	55.6	75.22	0
			0.7	48.7	68.3	0
150	9.8	4,000	2.0	69.5	79.3	0
			1.0	34.7	44.5	0
			0.8	27.8	37.6	0
			0.7	24.3	34.1	0
40	2.6	3,000	2.0	52.1	54.7	0
			1.0	26.1	28.7	0
			0.8	20.9	23.5	0
			0.7	18.3	20.9	0

¹ Preferred Alternative/Proposed Action.

² Most likely development level.

TABLE 2
POTENTIAL VISIBILITY IMPACTS FROM NO ACTION, PROPOSED ACTION, MOST LIKELY DEVELOPMENT, AND CUMULATIVE SOURCES

Jonah Field II Natural Gas Development Project, Sublette County, Wyoming, 1997

Action	Number of Days with Deciview ≥ 1.0	Number of Days with Deciview ≥ 0.5
No Action	0	18
Jonah Field II Alone (450 wells/12,000 hp compression) ¹	0	4
Jonah Field II Alone (300 wells/8,000 hp compression) ²	0	1
Cumulative with Jonah Field II at 450 wells/ 12,000 hp compression ¹	5	38
Jonah Field II at 300 wells/8,000 hp compression ²	2	29

¹ Preferred Alternative/Proposed Action.

² Most likely development level.

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BLM recognizes the impacts that implementation of the Jonah II Project will have on surface resources, however, given the terms and condition for implementation, the residual impacts are considered acceptable. The trade-off is acceptable under NEPA, given that all practicable means to avoid and minimize environmental harm have been adopted. Implementation will occur in a manner which will "... create and maintain conditions under which man and nature can exist in productive harmony" (NEPA Sec. 101(a)).

The Proposed Action, as constrained by the ROD, in accordance with FLPMA, provides for the minimization or elimination of unnecessary and undue impacts resulting in acceptable residual impact. The Proposed Action as authorized in this ROD provides the best management balance for the multiple uses within the area of the Jonah II Project while sustaining a long-term yield, promoting stability of local and regional economies, maintaining environmental integrity, and conserving resources for future generations.

The resources with the potential to experience the greatest change or impact from the infill development are recreation, land use, social/economics, air quality, and wildlife habitat. Other resources that will also be affected, but to a lesser degree, are soils, vegetation, livestock grazing, and water quality.

The Proposed Action authorized in this ROD requires predisturbance planning for implementation, operation, and abandonment activities. This process will specify the means by which unnecessary and undue impacts are to be mitigated and the manner in which the natural resources are to be protected and enhanced.

In all, the BLM decision to approve the Jonah II Operators' field development proposal, as described under the Proposed Action and as constrained by the *ROD*, takes into account important management considerations, Federal Agency missions, as well as the fact that natural gas, as directed by the U.S. Congress and the President, is

this Nations energy of choice to comply with the CAA amendments of 1990, and to help meet the public need for cleaner burning, less polluting natural gas. The Proposed Action as authorized in this ROD provides the best balance of these factors with the degree of adverse impact to the natural and physical environment. The development effort will help meet public needs for natural gas while at the same time allow humans to coexist with nature in a way that results in the least degree of irreversible, irretrievable commitment of resources. The long-term productivity of the area will neither be lost, nor substantially reduced, as a result of approving the Jonah II Project as constrained under the ROD. The only irretrievable resource will be natural gas.

The decision to approve the Jonah II Project includes careful consideration of the following factors:

- a) consistency with land use and resource management plans;
- b) public involvement, scoping issues, and draft and final EIS comments;
- c) management considerations based upon relevant public comments received;
- d) agency statutory requirements;
- e) national policy; and
- f) measures to avoid or minimize environmental harm.

A brief discussion on each of these factors follows.

a. Consistency with Land Use and Resource Management Plans - The proposed action is consistent with the Pinedale and Green River RMPS. Both RMPs acknowledge that oil and gas development could occur with the Jonah II Project Area and approve its development.

The BLM Environmental Impact Statement for the Pinedale Resource Management Plan (RMP EIS) (1988) projected a reasonable foreseeable development (RFD) for the Pinedale Resource Area within Sublette County of 900 new federal mineral estate wells above the existing (1985) level of 1,066 wells by the year 2005. It was assumed that drilling would continue as it had historically (i.e., 45 wells per year). Existing

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wells plus new wells would total approximately 1,966 federal wells in 2005. Based upon historic records, producing oil and gas wells in older fields would be abandoned at a rate of 16 wells per year or 35% in 20 years. The RMP EIS indicated that, based upon the information available at the time, the majority of development activity (90%) was expected to continue as it had historically - within or adjacent to currently producing areas (west of the Green River, between LaBarge Creek and Cottonwood Creek). However, the RMP EIS assumed oil/gas exploration and development could occur anywhere within the very high/high potential oil/gas areas.

The RMP EIS estimated an average short-term surface disturbance of 10.5 acres per location (well pad and access road) and 6 acres for rights-of-way (pipelines). For a producing well the RMP projected that approximately 5.0 acres of the pad and related access road, and all 6.0 acres of the pipeline right-of-way, would be reclaimed leaving 5.5 acres disturbed over the long term until the end of production and then reclaimed. Thus, for the 900 wells projected through the year 2005, this would mean 14,850 acres of initial disturbance (900 wells x 16.5 acres) and 4,950 acres of long-term disturbance (900 wells x 5.5 acres) following reclamation of the pipelines and portions of the pad and access road not needed for production operations. After factoring in 1,760 acres for reclamation of plugged and abandoned wells (320 wells x 5.5 acres per well), the cumulative net long-term disturbance would be 3,190 acres (4,950 acres - 1,760 acres) (see Table 3).

Although at the time the plan was prepared the indication was that 90% of oil and gas activity would occur west of the Green River in the Big Piney-LaBarge area, the RMP EIS analysis of potential resource direct, indirect, and cumulative impacts from oil/gas exploration/development, and the application of the *Wyoming BLM Mitigation Guidelines for Surface Disturbing and Disruptive Activities*, which prescribe resource protection measures necessary to mitigate impacts, were applied over the entire area of potential oil and gas development. The

mitigation guidelines were developed primarily for the purpose of attaining statewide consistency in how measures are determined for avoiding and mitigating environmental impacts and resource and land use conflicts. These mitigation guidelines for resource protection have been updated in the Green River RMP. Therefore, the mitigation guidelines for the Green River RMP (completed October 1997) supplement the guidelines contained in the Pinedale RMP. The Green River RMP, covering the southeast portion of Sublette County, also analyzed an RFD that anticipates a high potential for development.

Since the completion of the Pinedale RMP, 656 wells have been drilled within the Pinedale Resource Area as of February 1, 1998. Of the 656 wells drilled, 590 are active (producing or capable of producing) and 66 have been dry holes (plugged and abandoned). Since 1985, 234 Federal wells have ceased to be productive and have been plugged, abandoned, and the pad and access road reclaimed. An additional 22 wells are in the process of being abandoned. The well abandonment rate has been about 44 percent or 20 wells per year. The total number of active Federal wells within the Resource Area at this time is approximately 1,370. To date, approximately 85% of the development activity has been within the area between Cottonwood and LaBarge Creeks, west of the Green River, and 15% outside the Cottonwood/LaBarge Creek area. Of the activity outside the Cottonwood/LaBarge Creek area, 73% (or 79 wells) has been in the Jonah I & II project areas and 27% (or 29 wells) has been in the balance of the Resource Area.

Actual average short-term surface disturbance has been 11.4 acres per location (i.e., 6.4 acres per pad and access road, and 5.0 acres per pipeline) for a total of 7,478 acres. For producing wells, long-term disturbance has averaged 3.7 acres for the pad and related access road for a total of 2,427 acres. Records show that gathering pipelines constructed between 1985 and 1997 have disturbed approximately 2,622 acres, all of which were stabilized and reclaimed within three years. Other transportation pipelines

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constructed within the Pinedale Resource Area (PRA), which add 308.1 acres of initial disturbance, 100% of which has been reclaimed, include the following:

- 1993 Northwest Pipeline Saddle Ridge Pipeline - total length of 15.9 miles; 144.5 acres of initial disturbance,
- 1994 Questar Birch Creek Pipeline - total length of 39.5 miles - 8.5 miles of which is in the PRA; 376.6 acres initial disturbance - 83 acres in PRA, and
- 1994 Jonah Prospect Sales Pipeline (total length of 28.6 miles - 12 miles in PRA; 192 acres total disturbance - 80.6 acres in the PRA.

After factoring 866 acres for reclamation of the plugged and abandoned wells (234 wells at 3.7 acres each), the net long-term cumulative surface disturbance is 1,561 acres (see Table 4).

The BLM is currently reviewing the RFD scenario in the Pinedale Resource Area RMP EIS. In addition to the RFD for oil and gas exploration and development activities, the BLM is also reviewing the reasonably foreseeable activities or actions involving other land use and resource management programs, like recreation, livestock grazing, wildlife habitat, etc. There may be direct or interrelated cause and effect relationships among all of these activities or actions that could require amending RMP decisions, other than just those related to oil and gas actions.

The BLM is also initiating talks with other known regional oil and gas Operators, to determine their drilling plans (outside the Jonah Field II project area) for the next couple of years. Based on the results of these discussions and the review of the RMP-identified RFD scenarios, the BLM will decide when to initiate a new EIS effort for additional project proposals. If the anticipated level of activity(ies) covered by the Pinedale Resource Area RMP EIS are

likely to be exceeded by any one or more of these additional project proposals, the RFD scenario(s) for the RMP EIS will be updated. Analysis and evaluation of the updated RFD, in conjunction with the RMP, may lead to the amendment of some RMP decisions.

TABLE 3

RMP/EIS ASSUMPTIONS ON DISTURBANCE ASSOCIATED WITH OIL AND GAS DEVELOPMENT

Jonah Field II Natural Gas Development Project, Sublette County, Wyoming, 1997

	Acres Disturbed	Acres Reclaimed	Acres Disturbed Long Term
Total Initial Disturbance per Well	16.5	11.0	5.5
Well Pad & Road per Well	10.5	5.0	5.5
Pipeline per Well	6.0	6.0	0
Total Disturbance	14,850	9,900	4,950
P&A Wells	0	1,760	0
Grand Total	14,850	9,900	3,190

TABLE 4

ACTUAL DISTURBANCE ASSOCIATED WITH OIL AND GAS DEVELOPMENT

Jonah Field II Natural Gas Development Project, Sublette County, Wyoming, 1997

	Acres Disturbed	Acres Reclaimed	Acres Disturbed Long Term
Total Initial Disturbance per Well	11.4	7.7	3.7
Roads and Well Pad per Well	6.4	2.7	3.7
ROWs per Well	5.0	5.0	0
Total Disturbance	7,478	5,051	2,427
P&A Wells	0	866	0
Grand Total	7,478	5,917	1,561

The ultimate solution for updating the RFD scenarios in the Pinedale Resource Area RMP EIS is to include all existing and projected oil

and gas development activities in the Big Piney-La Barge and Jonah areas, the proposed exploration activities of other Operators, and

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the projected and anticipated development throughout the entire PRA. When an updated RFD scenario is established, some analysis and evaluation would be conducted to determine whether modifications to the RMP EIS are necessary. The RFD update could result in a requirement to amend one or more RMP decisions. However, this cannot be determined until the RFD update is prepared and evaluated. Analysis assumptions used in the Pinedale Resource Area RMP EIS are listed in Appendix B (page 253) of the DEIS for the PRA RMP. (Based on monitoring data collected during the past 10+ years, some of these assumptions reflect erroneously excessive surface disturbance effects related to oil and gas activities which may need to be revised.) Cumulative impacts would include the impacts identified in all previous NEPA documents and the reasonably foreseeable projects in the PRA.

All proposed land and resource use and management actions must conform with RMP decisions. In the absence of conformance, actions must either be denied, modified so they do conform, or the RMP decisions must be changed. Changes to RMP decisions are made through established procedures that involve public notice, public input, and formal decision-making. These procedures are contained in the BLM 1617 Manual. Proposals analyzed in NEPA documents (environmental assessments or EISs) are reviewed for conformance with RMP decisions. Project- or site-specific NEPA documents are tiered to RMP EISs. The resulting decisions for proposals analyzed in project-specific NEPA documents can result in the need to change or amend RMP decisions. That is, if a project-specific EA or EIS decision does not conform with the specific RMP, part of the decision for the project would include the needed change(s) to the RMP decision(s). If the potential for amending the RMP is identified, planning process requirements are incorporated into the project-specific NEPA process. If this potential is not determined early in the NEPA process, project delays may result due to the additional planning requirements necessary for a Federal Register Notice of Intent to conduct a planning review of (or to amend) the RMP, and the required time frames for public notice and comment.

The RMP would need to be amended if any decisions need to be changed as a result of this EIS. This is not the case with this EIS however. The EIS will supplement the RMP in that the total number of wells (900) used in the RMP RFD scenario could be exceeded as long as the RMP decisions remains the same. The RFD scenario contained in the RMP is not a decision but rather a set of assumptions used to perform an analysis.

Our review of the RFD scenario indicates that wells are being drilled at a faster pace than the RMP projected. However the total amount of disturbance is much below (32%) what was projected in the RMP. Thus there is no reason to change any RMP decisions as a result of this EIS.

b. Public Involvement, Scoping Issues, and EIS Comments - Opportunity for public involvement was provided throughout the environmental process. A tour of the field and a public meeting was held in Pinedale was held on July 29, 1996. Scoping for issues and alternatives was formally initiated on July 12, 1996 with the publication of a Federal Register Notice of Intent. Thirty comment letters were received in response to the scoping notice. A summary of the scoping issues is found on pages 1-14 through 17 of the *Jonah II Area Natural Gas Development Project Draft EIS*. Over 400 copies of the draft EIS were distributed to the public for review and comment on July 25, 1997. On August 18, 1997, a public open house and information meeting was held in Pinedale, Wyoming to inform attending public about the project and accept comments on the DEIS. Approximately 150 people attended. Concern was expressed about the cumulative effects on wildlife and air quality. Strong support for the Jonah II Project was expressed by the majority of those speaking.

A total of 43 comment letters were received by BLM on the draft EIS during the public comment period (July 25, 1997 through October 6, 1997). Individual comments (particularly those that presented new data or questions on new issues bearing directly on the effects of the proposed action and its alternatives) were identified and responded to

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in the final EIS.

In addition, an Air Quality Impacts Assessment Stakeholder's group was established and met several times to assist the BLM in identifying modeling assumptions and impact thresholds.

c. Management Considerations Based Upon Relevant Public Comments Received - Several comments on the final EIS raised similar concerns. These concerns have been grouped into areas of common concern and are addressed in Appendix E. All concerns have either been specifically provided for in the ROD or explanation provided in the response. Areas of foremost concern were:

- 1) Air Pollution Impacts Within High Mountain Wilderness Areas (Particularly Visibility and Acidification of Lakes) - Comments expressed concern that authorization of the Jonah II natural gas infill development project would cause serious impacts to the air quality related values of the wilderness areas within the Bridger-Teton and Shoshone National Forests.
- 2) Wildlife Impacts - Comments expressed concern that authorizations of the Jonah II natural gas infill development projects would cause harm to sage grouse.
- 3) Multiple Use Management - Many comments recognized the need and benefits of oil and gas development. Development and implementation should be in accordance with multiple-use management. Development should be done under strict controls which the public can review.

d. Agency Statutory Requirements - The BLM decision is consistent with all federal, state, and county authorizing actions required to implement the Jonah II Operators'

proposed action. All pertinent statutory requirements applicable to this proposal were considered. These include consultation with the USFWS regarding threatened, endangered, and candidate species; coordination with the State of Wyoming regarding wildlife, environmental quality, and oil and gas conservation; and Sublette County Commissioners for coordination of construction and use permits.

e. National Policy - Private exploration and development of federal oil and gas leases is an integral part of the BLM oil and gas leasing program under authority of the Mineral Leasing Act of 1920 and the Federal Land Policy and Management Act of 1976. The United States continues to rely heavily on foreign energy sources. Authorization for the lessees to exercise their rights in developing the oil and gas leases is necessary to encourage development of domestic oil and gas reserves to reduce the United States' dependence on foreign energy supplies. Also, natural gas is this Nation's "energy-of-choice" because it is clean burning and less polluting. Therefore, the decision is consistent with national policy.

f. Measures To Avoid or Minimize Environmental Harm - The adoption of the Proposed Action in this decision includes all practicable means to avoid or minimize environmental harm. The decision, to ensure that the environmental consequences of the field development activities will be minimal, includes not only the required environmental safeguards and resource protection measures prescribed by the Pinedale and Green River Resource Management Plans, it also includes the additional mitigating protection measures identified in the Jonah II Natural Gas Development Project draft and final EIS. The decision has given full consideration to all public, local, state, and other federal agency input. No substantive issues remain unresolved as raised by governmental agencies, industry, or individuals.

APPEAL

This decision may be appealed to the Interior Board of Land Appeals, Office of the Secretary, in accordance with the regulations contained in 43 CFR 3165.4(c). If an appeal is

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filed, the notice of appeal must be filed in this office (Bureau of Land Management, State Director, P.O. Box 1828, Cheyenne, Wyoming 82003) within 30 days of the date the notice of the decision appears in the *Casper Star Tribune*. The appellant has the burden of showing that the decision appealed from is in error.

If you wish to file a petition (pursuant to 43 CFR 3165.4(c)) for a stay (suspension) of the effectiveness of this decision during the time that your appeal is being reviewed by the Board, the petition for a stay must accompany your notice of appeal. A petition for a stay is required to show sufficient justification based on the standards listed in 43 CFR 3165.4(c). Copies of the notice of appeal and petition for a stay must also be submitted to the Interior Board of Land Appeals and to the appropriate office of the Solicitor at the same time the original documents are filed with this office. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

SIGNATURE PAGE
FOR
JONAH II AREA NATURAL GAS DEVELOPMENT PROJECT
RECORD OF DECISION

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Wyoming State Director

Date